THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, LONDON [ONE HUNDRED AND SIXTY PAGES.] TELEPHONE NUMBER—5356 GERRARD

No. XXV. of Vol. I., 1906. No. 4321. Vol. CLXX. LONDON, SATURDAY, JUNE 23, 1906. PRICE 7d.; POST FREE, 7½d. [Pp. 120+40.

SECOND EDITION of

THE OPERATIVE SURGERY of MALIGNANT DISEASE. By HENRY T. BUTLIN, F.R.C.S., D.C.L., Consulting Surgeon to St. Bartholomew's Hospital, &c., with the co-operation of JAMES BERRY (the Thyroid), W. BRUCE CLARKE (the Kidney), ALBAN DORAN (the Ovary and Uterus), PERCY FURNIVALL (the Stomach, Intestine, and Rectum), WALTER JESSOP (the Eye), and H. J. WARING (the Liver and Gall-Bladder). With 12 Engravings, 8vo, 14s.
J. & A. Churchill.

Published To-day. Pp. xii. + 274, with 153 Original Illustrations. Price 5s. net.

LECTURES on MIDWIFERY for MIDWIVES. By A. B. CALDER, M.B., M.R.C.S., Lecturer on Midwifery to London County Council and St. Mary's Midwifery Training School, &c.
London: Baillière, Tindall, & Cox.

Published To-day. Pp. viii. + 88, with 8 Plates. Price 5s. net.

PHLEBITIS and THROMBOSIS. By WARRINGTON HAWARD, F.R.C.S.Eng., Hunterian Professor of Surgery and Pathology, Royal College of Surgeons; Consulting Surgeon, St. George's Hospital, &c.—London: Baillière, Tindall, & Cox.

Published To-day. Pp. viii. + 167. Price 3s. 6d. net.

SHIP-SURGEON'S HANDBOOK. By A. VAVASOUR ELDER, M.R.C.S., L.R.C.P., Surgeon, Orient Steam Navigation Company, &c.
London: Baillière, Tindall, & Cox, 8, Henrietta-street, Covent Garden.

Now ready. Eleventh Edition.

THE EXTRA PHARMACOPŒIA. By MARTINDALE & WESTCOTT.
A Real Pocket Book. See page 5.

Pp. viii. + 90. With 9 Plates, plain and coloured. Price 5s. net.

NODAL FEVER (Febris Nodosa). By A. AUSTIN LENDON, M.D. Lond., M.R.C.S. Eng., Lecturer on Obstetrics and Clinical Lecturer on Diseases of Children, formerly Lecturer on Forensic Medicine in the University of Adelaide; Visiting Medical Officer, Children's Hospital, Adelaide.
Baillière, Tindall, & Cox, 8, Henrietta-street, Covent Garden, London.

THE REST CURE. (In preparation.)
HEADACHE. Price 12s. 6d.
FLUSHING and MORBID BLUSHING. 10s. 6d.
By HARRY CAMPBELL, M.D., F.R.C.P., Physician, North-West London Hospital, and to the Welbeck-street Hospital for Diseases of the Nervous System.
Published by H. K. Lewis, 136, Gower-street, W.C.

Now Ready, Second Edition, with 17 Illustrations, price 2s. 6d. net.

ANÆSTHETICS. By J. BLUMFELD, M.D. Cantab., Senior Anæsthetist to St. George's Hospital, Hon. Anæsthetist to St. Mary's Hospital and to the Grosvenor Hospital for Women and Children, London.
London: Baillière, Tindall, & Cox, 8, Henrietta-street, Covent Garden.

Now ready, 8vo, 6s. net.

CARBOHYDRATE METABOLISM AND DIABETES.
By F. W. PAVY, M.D., LL.D., F.R.S.
J. & A. Churchill, 7, Great Marlborough-street.

Ready To-day. 240 pp., with numerous Illustrations, 5s. net.

SPINAL CURVATURES: The General Principles of their appropriate Mechanical Treatment, With a Critical Analysis of the Gymnastic Theories. By HEATHER BIGG, F.R.C.S. Ed.
London: J. & A. Churchill, 7, Great Marlborough-street, W.

Just published, demy 8vo, cloth, price 3s. 6d. net, by post 3s. 10d.

THE ANÆSTHETIC TECHNIQUE FOR OPERATIONS ON THE NOSE AND THROAT. By A. DE FRENDERVILLE, M.R.C.S., Anæsthetist to the London Throat Hospital, &c., &c. Many Illustrations.
London: H. J. Glaisher, 57, Wigmore-street, W.

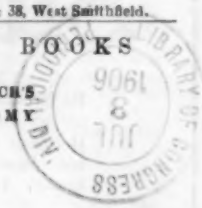
BY C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S., Senior Surgeon and Lecturer on Surgery at the London Hospital; Examiner in Surgery at the University of Cambridge; late Examiner in Surgery at the University of Oxford.
ENLARGEMENT of the PROSTATE. Third Edition. Price 6s.
INFLAMMATION of the BLADDER and URINARY FEVER. Price 5s.
London: H. K. Lewis, 136, Gower-street.
WHEN to OPERATE in INFLAMMATION of the APPENDIX. Second Edition. Price 2s. 6d.
THE SURGICAL TREATMENT of GASTRIC ULCER. Price 2s. 6d.
London: J. Bale & Danielsson, Ltd., 83-89, Gt. Titchfield-street.

Now ready. SECOND EDITION. Thoroughly Revised. In One Volume, Royal 8vo, Extra Cloth Binding, pp. xxxvi.-1388. Illustrated with 936 Wood Engravings from Original Drawings, many printed in Colours. Price 31s. 6d. net; or in Half-Leather Binding, 35s. net.

TEXT-BOOK of ANATOMY. Edited by D. J. CUNNINGHAM, M.D., F.R.S., Professor of Anatomy in the University of Edinburgh.
Contributors—
Ambrose Birmingham, D. J. Cunningham, A. Francis Dixon, David Hepburn, Robert Howden, A. M. Paterson, Arthur Robinson, Harold J. Stiles, Arthur Thomson, A. H. Young.
Young J. Pentland.
Edinburgh: Teviot-place. London: 38, West Smithfield.

SAUNDERS' NEW BOOKS

SOBOTTA & McMURRICH'S HUMAN ANATOMY
IN THREE VOLUMES.
VOL. I. JUST ISSUED.



See Advertising Page 7.

Now Ready. Demy 8vo. 324 pp. Illustrated. Price 7s. 6d. net.

THE MEDICAL DISEASES of EGYPT. Pt. I. By F. M. SANDWITH, M.D., F.R.C.P.
London: Henry Kimpton, 13, Furnival-street, Holborn, E.C.

Just Published. With numerous Illustrations. Royal 8vo, price 25s.

THE DISEASES of the NOSE and its ACCESSORY SINUSES.
By H. LAMBERT LACK, M.D. Lond., F.R.C.S. Eng., Surgeon to the Throat Department of the London Hospital; Surgeon to the Hospital for Diseases of the Throat, Golden-square; Lecturer on Diseases of the Throat, London Hospital Medical College (University of London).
Longmans, Green & Co., 39, Paternoster-row, London, E.C.

587 pages, with 249 Illustrations. Royal 8vo. 15s. net.

LAWSON.—DISEASES of the EYES. Sixth Edition. Revised and Rewritten by ARNOLD LAWSON, F.R.C.S., Assist. Surg., Roy. Lond. Ophth. Hosp.
London: Smith, Elder & Co., 15, Waterloo-place, S.W.

Just published, 1s. net; by post, 1s. 1d.

ELECTROLYSIS in the TREATMENT of FACIAL and OTHER BLEMISHES. By J. D. P. MCLATCHIE, M.B., C.M.—London: H. J. Glaisher, 57, Wigmore-street, W.

Just Published. Pp. x. + 193, with 27 Illustrations. Price 5s. net.

DISEASES of the RECTUM, being a Short Account of the Commoner Diseases affecting the Ano-Rectal Region. By F. VICTOR MILWARD, M.B., B.C. Cantab., F.R.C.S. Eng.
Birmingham: Cornish Bros., Ltd., New Street.

Second Edition. Pp. x. + 242, with 54 Plain and Coloured Figs. Price 6s. net.

HANDBOOK of DISEASES of the EAR. By RICHARD LAKE, F.R.C.S., Surgeon to the Royal Ear Hospital.
London: Baillière, Tindall, & Cox, 8, Henrietta-street, Covent Garden.

PRACTICAL PRIVATE and PERSONAL INSTRUCTION in SUBJECTIVE SIGHT TESTING free to Medical Men by Mr. F. DAVIDSON, at his rooms, 140, Great Portland-street, London, W. Communication invited.—MEDICAL OPINIONS: "It has increased both my reputation and my practice." "I wrote to Dr. — advising him to run up to London and take a lesson or two from you." "Your instructions are splendid." "You are at liberty to mention my name." "I am simply delighted." "Once your method is grasped it lessens the time necessary over any given case of astigmatism by two-thirds." "I thank you for your ready help."—Study and Practice of Retinoscopy, with a Model Eye, by Mr. Percy Dunn. Price, including Model Eye, 17 Discs showing typical conditions of the Retina, and various lenses for Retinoscopic Practice, £1 5s. "Sight Testing for the General Practitioner," by F. Davidson, price 2s. 6d.
Direct Illumination of the Eye made easy by means of simple Electrical Appliance, complete with cord and battery, 30s.
F. Davidson & Co., 140, Great Portland-street, London, W.

CAMBRIDGE LEMONADE

THE "LANCET" says:— "Pure and wholesome, being obtained from selected lemons. ..... The pleasant aroma and acid taste of the fresh cut lemon. ..... A refreshing and agreeable summer beverage."

4½d. Bottle makes Two Gallons.

SOLD BY GROCERS AND STORES.

SAMPLE FREE TO MEMBERS OF THE MEDICAL PROFESSION.

CHIVERS & SONS, Ltd.,
HISTON, CAMBRIDGE.

Santyl=Knoll

Tasteless, Non-irritant, Salycilic Acid Ester of Sandal Wood Oil.

No irritant action on the kidneys; no gastro-intestinal disturbance. It causes no eructation and does not impart any smell to the breath. Can be taken in drops.

Internal Remedy in Gonorrhœa.

KNOLL & Co., Manufacturers of Fine Chemicals, 27a, St. Mary-at-Hill, London, E.C.

By Appointment to H.M. the King.

Cyllin

THE NON-TOXIC BACTERICIDE.

The efficiency of Cyllin is guaranteed ten to thirty times that of Carbolic Acid, according to the organism against which it is employed.

1/- Bottle makes 25 Gallons—efficiency guaranteed.

Preparations of Cyllin:—

CYLLIN (medical)—A refined preparation for Medical and Surgical use.
CYLLIN CAPSULES (palatinoids)—Recommended for Gastric or Intestinal Antisepsis.
CYLLIN INHALANT—For use with Cyllin Inhalator in suppurative conditions of the bronchial passages, &c.
LANO-CYLLIN.—For use in Eczema, Pruritus, and other Inflammatory conditions of the skin.
CYLLIN PASTILLES—Antiseptic Throat Lozenges: invaluable for purposes of mouth hygiene.
CYLLIN DUSTING POWDER, SOAP, SUPPOSITORIES, GAUZE, ETC.

See Pamphlet entitled "STANDARD CHEMICAL DISINFECTANTS." Copies, together with working Samples, sent gratis and postage paid on applying to

Jeyes' Sanitary Compounds Co., Ltd.,
64, Cannon Street, London, E.C.

A Lecture
ON
THE USES OF PESSARIES.

Delivered at the Medical Graduates' College and Polyclinic

BY PETER HORROCKS, M.D. LOND., F.R.C.P. LOND.,
SENIOR OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL.

LADIES AND GENTLEMEN,—Operations nowadays can be performed with such safety that they are undertaken in cases which would never have been touched with the knife a generation ago. And whilst all must rejoice to think that science has attained to such perfection, yet it behoves us to take care lest we carry it to excess. Whenever an operation is being performed it is a good and sound principle to try to remove as little as possible and to leave the parts in as natural a condition as may be, consistent, of course, with the attainment of the object in view—namely, the relief of the patient. Not only so, but the principle of avoiding operation altogether when non-operative measures can be employed is one which is worth your consideration and one which I venture to believe will ultimately become not only well recognised but also acted upon by the bulk of the profession. It does not follow because a patient recovers without a bad symptom and is cured of some complaint by an operation that the operation is justified. Instances could be given where the unjustifiableness is very obvious. But this want of justification is not always so apparent. And cases arise where one authority will strongly urge operative treatment in which an equally good authority will just as strenuously oppose operation. Where operation can be avoided by adopting milder measures they ought to be employed when those milder measures give better, or as good, or even not quite such good, results as operations. Pessaries when properly used will give relief to many of the complaints for which at the present time some men are advocating operations instead. It is harder to learn how to use pessaries properly than to do operations and it is difficult for a man in general practice to acquire a special knowledge in these things when he has so many other matters to engage his attention. It is for these reasons that the subject of the uses of pessaries has been selected for to-day's lecture in order that one may try to give you the results of the experience gained in over 20 years of busy practice in gynæcology.

The word "pessary" is derived from πεσσος, a kind of plug of wood or lint steeped in medicinal substances to be introduced into the vagina, anus, &c. Speaking broadly, its use at the present time is chiefly to remedy, or prevent, or alleviate some form of displacement of more or less of the pelvic floor. This displacement may be fitly compared with a hernia, in which case a pessary would represent and fulfil the same functions as a truss, though, as will be seen, its action is often more complicated than that of a truss. Pessaries are sometimes employed successfully for reasons other than displacement and these uses will be described later.

For the successful use of pessaries in the various forms of displacement it is necessary to have a clear idea of the causes at work in the production of displacements, of the various means of removing or minimising such factors, of the various kinds of pessaries suitable for different cases, and of certain adjuvants which assist in the successful employment of these instruments. The displacements are those of some part or parts of the pelvic floor, and often, also, of some organ or organs more or less intimately attached to that floor. Hence, it is necessary to remind you of what the pelvic floor consists and of the organs which are associated with it in displacements.

The pelvis is lined by peritoneum and if you open the abdomen and remove the intestines from its cavity you see that the peritoneum covers all the organs and that it is reflected on to the sides of the pelvis to become continuous above with the rest of the abdominal peritoneum. It is practically a continuous sheet, the two tiny openings into the Fallopian tubes being of no account so far as the present subject is concerned. The intestines lie above this peritoneal surface and whatever pressure is brought to bear upon it is transmitted for the most part through the bowels. You will find different accounts of the structure and arrangement of the parts in the pelvic floor; but all are agreed that it consists of fasciæ, muscles, connective tissue, ligaments, and fat, together, of course, with the various nerves, blood-vessels, and lymphatics; that it is covered in above by the peritoneum; and that outwardly it is continuous with the skin. Between these two—namely, the pelvic peritoneum and the outside skin—is a strong fibrous diaphragm, continuous at the sides with, and called in anatomical works a process of, the pelvic fascia. Then there are the coccygei and levatores ani muscles which form a strong but incomplete muscular diaphragm; anteriorly is the triangular ligament. The rectum behind, the vagina in the middle, and the urethra in front run through the structures that close in the pelvis, perforating the parts except, of course, the peritoneum. These perforations weaken the pelvic floor but the hollow tubes themselves are supported and strengthened by muscles, fasciæ, connective tissue, and fat. The vagina is perforated above by the cervix uteri which it embraces and with which it is intimately united.

The uterus is maintained in its position by its attachment to the vagina below, to the bladder by loose cellular tissue and peritoneum in front, by the broad ligaments laterally, by the reflected peritoneum posteriorly, together with the utero-sacral ligaments behind, the round ligaments in front, and the Fallopian tubes at the sides.

Some form of displacement of part or parts of the organs just mentioned in the pelvic floor, using this in its widest sense, is extremely common amongst women. And the reason of this is because it is as a rule the weakest part of the abdomino-pelvic cavity. Whenever the pressure within that cavity is increased, naturally the weakest part gives way. Again, whenever the pelvic floor possesses less strength either from congenital causes or, what is far more common, from damage sustained during life, of which parturition is the most potent, naturally it yields to slighter pressure, or it yields more extensively to the same pressure to which it was subjected before the weakening. Again, imbedded in the tissues of the pelvic floor is an organ which is extremely prone to increase in bulk and weight and which is liable, owing to the instability of its position, to various forms of displacement.

The causes of displacements.—The first, foremost, greatest, and most important of these causes is increase in intra-abdominal pressure brought about, as a rule, by hard work but sometimes by hard play, by chronic cough, constipation (straining at stool), fits, or accidents. This cause is quite sufficient to produce the worst forms of displacement of the uterus, even where there has been no damage whatsoever done to the pelvic floor. I remember seeing a poor overworked servant girl of 16 years, with the cervix uteri protruding through the hymeneal orifice, the hymen being stretched by this protruding mass. In fact, she had partial procidentia and on inquiry it was found that she had to carry heavy coal-scuttles from the bottom to the top of a high building. But you find that the commonest form of displacement is prolapse and that it occurs chiefly amongst the hard-working population. Charwomen, washerwomen, laundresses, women who have to stand for long hours every day, women who are employed as rubbers in Turkish baths, masseuses, nurses who lift heavy patients, and women who do any kind of work that involves straining, especially when they have to do it for hours at a stretch, these are they who suffer chiefly from displacements, and it is because of this increased intra-abdominal pressure. Again you will find it in women who suffer from chronic cough, such as in pulmonary tuberculosis, chronic bronchitis, asthma, and the like; amongst those who are obliged to strain a great deal at stool through chronic constipation and amongst those who strain for other reasons, and in all these cases it is this increased intra-abdominal pressure which is the cause. Then in play you will often find amongst women who strain excessively at golf, tennis, cycling, &c., the same force of increased intra-abdominal pressure causing the displacement. Similarly a person subject to fits may for the same reason acquire a pelvic displacement. And in a few cases displacements are caused by a sudden strain, as in accidents where the diaphragm and abdominal muscles are thrown into excessive action often by an involuntary reflex act as, for instance, where a patient makes a sudden effort to save herself from a fall.

The fact is that the pelvic floor is the weakest part of the abdomino-pelvic cavity in a woman so that when the pressure within gets more than its walls can sustain, naturally the weakest part gives way. In a man this is generally the femoral or inguinal canal and hence men who strain hard, at work, &c., not infrequently get a hernia; whereas a woman under the same conditions of strain gets some form of displacement, such as prolapse of the uterus. It is a well-known fact that hernia through the inguinal and femoral canals is far rarer amongst women than amongst men, and the reason is because the pelvic floor is the weakest part in the abdomino-pelvic cavity of a woman and the inguinal and femoral canals in that of a man; in fact I would say masculine hernia, feminine prolapse. A woman, however, is more frequently affected by umbilical hernia than a man because this spot is so often weakened by the stretching of the abdominal wall through pregnancy. And still more frequently you often find the recti abdominis so separated and the aponeurosis so damaged by one or more pregnancies that the woman suffers from a ventral hernia, which as a rule is in no danger of strangulation because it is so long and so wide. In such women you can generally demonstrate the presence of this ventral hernia by getting them to increase the intra-abdominal pressure by raising the head, or by coughing, or by bearing down whilst they are laid in the dorsal position; you will then see the elongated more or less wide and oval protrusion appear in the median line and with your fingers you can feel the edges of the recti muscles more or less widely separated one from the other. Now please notice that when a woman has this condition she does not suffer from displacement, or at all events if she has some displacement it is scarcely if at all increased by exertion. For if your place your finger on the cervix uteri and place the other hand on the abdominal wall and ask the patient to raise her head, or cough, or bear down, you will feel the forcible bulging of the ventral hernia whilst the uterus will scarcely be affected. Whereas when there is no ventral or other hernia the effect of raising the intra-abdominal pressure is to drive the uterus and vaginal walls downwards often quite forcibly.

In cases of ventral hernia the median line of the abdominal wall is the weakest part and hence it gives way, and in doing so the rest of the abdomino-pelvic cavity is saved from the effects of the strain. A ventral hernia thus acts like a safety valve. Similarly, a woman who has an inguinal femoral or umbilical hernia exerts less pressure on her pelvic floor during hard work, coughing, &c. In some cases the difference in the effect on the uterus caused by bearing down is very marked according to whether the hernia is kept up by a well-fitting truss or is allowed to come down freely. In the same way, if you fit a patient who has a ventral hernia with an abdominal belt, the more securely it prevents the ventral protrusion the more powerfully will any strain act upon the pelvic floor. Hence you can often relieve symptoms caused by prolapse of the uterus by simply telling a patient to cease wearing a belt and instructing her to avoid wearing tight corsets, &c. Indeed, one of the causes of displacement of pelvic viscera is the wearing of tight corsets, bands round the abdomen, and other things which interfere with the natural yielding of the abdominal walls proper during strain. Anything which strengthens the abdominal wall or prevents its yielding under pressure, *pari passu* helps in the production of pelvic floor displacement. For the less the abdominal wall yields during the increased pressure of hard work, coughing, straining at stool, standing, walking, &c., the greater is the pressure on the pelvic floor. Conversely, anything which weakens the abdominal walls or which permits a free play for the natural movement of those walls will take off pressure from the pelvic floor and so remove more or less the cause of displacement.

The second cause of displacements and the one which comes next in order of importance is weakening of the pelvic floor. This is brought about usually by labour at full term and the greater the number of such labours the greater is the damage done. No doubt it is the first labour which does the greatest damage as a rule. Assuming that the woman is well developed with an average-sized pelvis and that the child is of an average size and weight the damage done is not excessive and is as a rule easily and fairly effectually repaired. But when you study the structures of the floor of the pelvis and when you think of the enormous stretching of the parts that must take place to permit of the passage of the head of an ordinary child, you must admit that not only is it likely that the parts will be incapable of returning to their original condition but that in most cases there will be more or less laceration. You all know that it is the usual thing to get a notch in the cervix uteri and a slight laceration through the posterior fourchette and a little of the perineum. The vagina itself is stretched so enormously as seldom to regain its original state.

Schatz discovered evidence of laceration in the levatores ani muscles and doubtless the fascia of the pelvic floor is also damaged more or less. Again, it is reasonable to suppose that where these various structures are put to the same stretching process many times they will be less likely to recover their tone than where they are only stretched once. In some women the amount of damage done is apparently very slight. Their tissues seem to be extremely elastic and so to yield as much as is required for the parturition and yet to recoil to their pristine condition. This is especially true where the mother is young—say, between 18 and 24 years of age. Naturally much greater damage is done to the pelvic floor when the child is big or when the passage through which it has to pass is small or where certain obstetric operations are required.

The third cause is getting up too soon after labour. This acts in two ways. In the first place the weakened pelvic floor has not had time to regain its tone and to undergo repair; possibly it never does regain its pristine strength but if sufficient time be allowed to elapse before any pressure is put upon it nature will restore the parts in the best way possible. The older a woman is when she has her first child the longer ought she to remain in bed to permit of repair of damaged parts. In the second place it takes six or eight weeks for the uterus to undergo complete involution and hence before that time has elapsed it is big, bulky, and heavy. Thus if a woman gets up too soon after labour, and particularly if she begins to work—and indeed in many cases this too early getting up is done on account of the necessity for the woman to work—she has a heavy uterus, a larger area of uterus for the intra-abdominal pressure to act upon, and a weakened pelvic floor. Hence the displacement.

The fourth cause is weakness of the pelvic floor from emaciation and loss of tone due to general weakness, as in phthisis, severe illnesses, starvation, bad food, bad air, and bad hygienic surroundings. It must be remembered, however, that such patients are generally so weak that they are not able to use their muscles very powerfully and hence the increase in the intra-abdominal pressure is not so great. Unfortunately many of these patients are obliged to work and it is difficult or impossible for them to obtain the necessary rest.

The fifth cause is the presence of tumours or effusions of lymph, serum, blood, contents of cysts, dragging by contraction of inflammatory products, &c. Displacements under this heading are as a rule of much less moment than the thing which causes them and the treatment by pessaries is only admissible when the cause has been removed.

The sixth cause is an alteration in the condition of the uterine wall. The older it is the more rigid it is; indeed, after the climacteric it is much less flexible owing to the fact that there are a greater proportion of fibrous tissue and less muscular tissue relatively than before the change of life. For this reason no attempt should be made as a rule to correct any abnormal flexion of the uterus after the climacteric. In some cases, however, prolapse and abnormal versions can be remedied. In many cases where there is prolapse as well as abnormal flexion and version keeping the uterus up at a higher level by means of a suitable support relieves the patient of symptoms caused by the flexion and version, although these are not remedied. In some cases the consistence of the uterine wall is so altered that it seems to bend easily in any direction, remaining in whatever position it is placed. Such a condition is, however, but rarely met with and treatment to obtain a better tone in the muscular wall is of as much importance as, if not more than, that by pessaries.

The seventh cause is damage to the pelvic floor or disturbance of parts in it by over-distension of the rectum or bladder. The damage is, of course, much less than that done by parturition. But there are a few cases where, for instance, the rectum is greatly distended by fæces and this distension is kept up for days or even weeks and is repeated again and again, so rendering it difficult or impossible for the pelvic floor to recover itself even after the rectum is emptied. The overfilling of the bladder pushes the uterus backwards into a state of slight retroversion until, in fact, it is leaning so far back that the top of the fundus uteri is behind the vertical line and so the intra-abdominal pressure

drives it further backwards instead of downwards and forwards on to the bladder. Thus emptying the bladder too seldom is not infrequently a prime cause in starting a retroversion and retroflexion.

You will find, as a rule, that the various displacements which cause the symptoms of which the patient complains are produced slowly and gradually. In comparatively few cases are they suddenly produced. In others words, they are mostly chronic and not acute.

Some forms of displacement you meet are always chronic and never acute. For example, a partial procidentia of the uterus with supravaginal elongation cannot be suddenly acquired. Some years ago a woman, who was a passenger in a train when there was a slight accident, claimed damages on the ground that she had sustained an injury which had caused something to protrude from the vagina. Her own medical attendant and the medical man employed by the railway company disagreeing in regard to the case, it was decided by both patient and railway company and by the two medical men to abide by the decision of a third person. I was asked to arbitrate and I examined the woman with the two medical men. She had a partial procidentia of the uterus with supravaginal elongation. I was able, therefore, to say that it could not have been caused by the railway accident as it was a condition requiring a much longer time to produce. When we returned to the woman after our consultation she admitted that she had been treated for years at more than one hospital on account of falling of the womb and that she had worn different kinds of pessaries. One need hardly say that she did not get the exorbitant sum she demanded, though the railway company generously allowed her a sum sufficient to pay all her expenses.

Retroflexion of the uterus is mostly produced slowly. My experience has been that where a woman increases the intra-abdominal pressure whilst in a bent position she is more liable to acquire a retroflexion. For example, nurses are prone to this form of displacement through lifting patients. They place their hands under a patient, bend down, and then lift. The uterus, which normally lies in a state of anteversion and slight anteflexion, is pushed backwards beyond the vertical line and maybe when the effort is over it does not recover itself. Perhaps the natural structures tending to keep it in position do so for a time but when the same thing happens frequently or when the strain is very excessive the uterus remains slightly retroverted and so in a position for becoming by further pressure converted into further retroversion and, finally, into retroflexion as well.

Mention has already been made of the rôle played by the bladder when it is allowed to get over-filled. Every sort of exertion tends to produce retroversion and retroflexion when the bladder is distended.

You will have gathered from the remarks that have been already made that in every case of displacement you are called upon to treat it is necessary not only to make out the kind of displacement but also how it has been produced. You can then give the patient good advice with a view of eliminating, or as much as possible lessening, the causes which have been at work. For example, in a young unmarried girl whose uterus has begun to get prolapsed through hard work I have many times been able to save her from procidentia and even from the necessity of wearing a pessary by advising her to give up the work and to take to a sedentary employment such as dressmaking. In some cases it is impossible for the patient to give up her work but still you should always do your best to impress upon her the injurious effect of severe or prolonged or too frequent strain. Again, you should find out if she is wearing tight corsets or anything tight round the waist or round the abdomen. Abdominal belts are often used by women under the impression that they require a support. But, as I have explained, whilst it supports the abdominal wall it prevents the natural yielding and hence a greater pressure is exerted upon the pelvic floor. Let them discard the abdominal belt, tight garments, tight stays, &c., and give the abdominal walls full play and they will be greatly relieved. Any cough should be remedied as far as possible and constipation should be attended to. Vomiting and retching must be cured or relieved as far as may be. If you find that the patient is in the habit of holding her urine too long, perhaps owing to the fact that to retire is inconvenient in her employment, you must tell her of its injurious effect upon the womb and advise accordingly. Roughly speaking, 13 ounces of urine are secreted every six hours and a working woman, at all events, should not go longer if she can help it during the daytime. If you find the uterus big and bulky through subinvolution you should try to lessen its size as much as possible by means of rest, hot-water vaginal douches, drugs (ergot, &c.), and if need be curettage. Astringent injections of alum, or sulphate of zinc, are useful in some cases where the vaginal mucous membrane is lax. Repairing the perineum is sometimes helpful in enabling a patient to keep in a pessary which would otherwise come out but it has little or no effect in preventing displacement. Similarly improvement of the general health by means of good food, fresh air, better hygienic surroundings, change of environment, tonics, &c., will help to give tone to the pelvic floor in those cases where it has been weakened by the causes mentioned.

The commonest displacement which requires treatment is prolapse of the uterus and this is nearly always combined with retroversion. If it is slight in extent it may be sufficient to get the patient to change her employment when you find her prolapse is due to hard work. If the prolapse be greater, or if she cannot change her occupation, then she must as far as possible avoid making matters worse, for which purpose let her wear nothing which would impede the natural free movements of the abdomen; let her avoid lifting heavy weights and fit her with a watchspring indiarubber ring pessary or with a Hodge's vulcanite or celluloid pessary. Sometimes you will find one and sometimes the other gives more satisfaction. The indiarubber ring pessary which I always use has not only a watchspring but also an outer chamber containing fluid (glycerine, &c.). I began to use them first in women after the climacteric when the vagina is more hyperæsthetic and hence less tolerant of pessaries. They were such a great success that I always use them now no matter what age the patient is and they are as great an improvement over the old-fashioned ones as a pneumatic tyre is over a solid rubber tyre. If the prolapse is of a still higher degree, and especially in those cases where the abdominal walls are intact and where hard work has to be done rendering the downward pressure very great, a cup-and-stem pessary will be found extremely useful. Of these the one that has seemed to me to answer the best is the red rubber Napier's cup-and-stem pessary. It is fastened in the usual way by tapes running forwards and backwards, tied to a waistband above as tightly as is needed. The rubber cup and stem yield to some extent during heavy work and so this pessary is more tolerated, giving less pain than rigid cup and stems such as those made of vulcanite. There are few cases even of procidentia that cannot be kept up in this way. I have known instances, however, where a Zwancke's pessary succeeded when a cup and stem failed. But a Zwancke's pessary should always be removed every night and replaced every morning, and here let me say that where an instrument is taken out every night and replaced every morning the bowels should be relieved whilst it is out. Over and over again I have been told by a patient that the instrument would not keep in and on inquiry it has been discovered that it came out during defæcation. Even vulcanite instruments are sometimes expelled during the act of defæcation. This can be prevented by pressure with the hand against the vulva during the expulsion of the stool. Repair of an extensively lacerated perineum will sometimes help in keeping an instrument *in situ*, although laceration of the perineum has little to do with the causation of prolapse of the uterus. For, on the one hand, you may find no prolapse at all, even with a perineum lacerated through the sphincter ani into the rectum, and, on the other, you may meet with prolapse in all degrees in a virgin when she has hard work to do or is the subject of chronic cough, &c. Anterior and posterior colporrhaphy are operations done largely to remedy cystocele and rectocele respectively but they also narrow the vaginal canal and thereby enable pessaries to succeed where they failed before.

And here let me say something about the material of which pessaries are made. A pessary is generally made either of indiarubber or of some polished material like vulcanite or celluloid or of metal. When made of rubber it soaks in the natural secretions and these then decompose and cause an offensive discharge. Therefore for the last 20 years I have never fitted one of these instruments without teaching the patient how to remove it and to re-insert it herself. If she does this often, and indeed it is far the best for her to do it every day—namely, to remove it when she goes to bed and to replace it when she gets up, for it is not required whilst she is in a horizontal position and it gives the parts a rest—she can keep the instrument perfectly clean

by means of some antiseptic. Some patients leave it all night in a fluid antiseptic such as Condy's fluid, carbolic acid 1 in 60, boric acid lotion, and the like. This, however, tends to spoil the rubber and hence it is better to place it in an antiseptic solution for five or ten minutes and then to take it out and to dry it. Another advantage of taking out the pessary at night is that there can be no dyspareunia caused by the instrument and no other effect upon coitus. For it is fairly common to find either husband or wife complaining that it is in the way or causes pain and inconvenience and in a few instances I have known it cause the wife to lose the orgasm. A still further advantage is that less damage is done to the vaginal walls. An instrument that is kept *in situ* for months at a stretch may cause ulceration, especially if it be made of some hard material like vulcanite and almost certainly if it is at all too big or if the patient has a lot of hard work to do causing great and prolonged pressure. I have known a Zwancke's pessary cut its way into the bladder by gradual ulceration through this pressure. Had the instrument been removed this could not have taken place. I have also found a gutter of ulceration caused by a vulcanite Hodge pessary on each side of the vagina running from above downwards and produced by long-continued pressure of the sides of the instrument which was really too wide. Ulceration can hardly be produced if the pessary is removed every night and the special double-chambered indiarubber rings could hardly cause ulceration, even when left *in situ* for months. When a patient cannot remove a rubber pessary frequently she should try to keep it clean by frequent injections of some antiseptic lotion, like hot boric acid lotion. Smooth polished vulcanite, metal, or celluloid instruments need not be removed frequently. They can be left three months or more so long as they are comfortable, except certain kinds, such as Zwancke's pessary, which, however, is seldom, if ever, used nowadays. When opportunity offers it is a good plan to remove a pessary for some days if the patient is able to rest and she can have it replaced when she gets about again. In all forms of Hodge's pessary the framework should not be too thin as it is apt then to cause pain. The vulcanite of which it is made should be of the same thickness or thereabouts as a No. 10 Hegar's dilator—i.e., with a diameter of ten millimetres. Polished vulcanite ring pessaries are not nearly so comfortable as the two-chambered rubber pessaries. Moreover, they are painful to insert and to remove inasmuch as they cannot be compressed during their entrance or exit through the vaginal orifice. Aluminium is the commonest metal used nowadays for making pessaries; as a rule they are less comfortable than those made of vulcanite. For one thing they are generally made too thin. Disc pessaries, with or without a stem for the purpose of removal, are sometimes more efficient, especially in elderly women with cystocele, than ordinary ring pessaries.

The next most common displacement requiring treatment is retroflexion of the uterus. This is nearly always combined with retroversion and not infrequently with prolapse as well. Moreover, it may be complicated with more or less diminution of the mobility of the uterus as a whole, and with more or less diminution of the natural flexibility of the uterine tissue. For example, after the climacteric period the tissue becomes less muscular, more fibrotic, and less capable of flexion and therefore no attempt should be made as a rule to rectify the retroflexion in such women. Moreover, the lessening of the size of the uterus by the natural atrophic changes renders such rectification superfluous.

Where the uterus is more or less fixed an attempt should be made to get it looser by various means before any trial is made to rectify the displacement. For this purpose hot water vaginal douches are most excellent. It may be necessary to keep the patient at rest in bed for several weeks douching her two or three times a day with not less than four quarts of water, each time beginning at a temperature of 110° F. and working up to 115° or, if possible, to 120°. A course of mercury taken internally or some ointment of oleate of mercury rubbed into the skin above the groin every night will help to absorb some adhesions.

Where there is no impairment of the uterine mobility and where you have succeeded in obtaining sufficient mobility by appropriate treatment you can as a rule restore the uterus into a position of anteversion and anteflexion by digital effort alone without the aid of instruments. Formerly a uterine sound was used but this is very seldom required nowadays. The patient should be semi-prone in Sim's (not the pure lateral) position; then by gentle but firm pressure with the finger in the vagina, on the fundus uteri upwards and forwards and then on the front of the cervix backwards, you will succeed in most cases. When the reposition has succeeded fairly well you can often complete the restoration by the bimanual method—namely, passing the right hand between the thighs and so manipulating the fundus uteri through the abdominal wall whilst the left forefinger presses still on the cervix.

Another plan is to have the patient on her back and to use the right forefinger on the vagina and the left hand on the abdomen. You will also find that when you have got the fundus of the uterus slightly in front of the vertical line it will help you if you ask the patient to bear down as much as she can. The increase in the intra-abdominal pressure comes into play and drives the uterus forwards into anteversion, but this only acts when the uterus is sufficiently forwards to be in front of the vertical line, and during the time she is bearing down the finger in the vagina should be passed well up into the anterior fornix and should press the cervix uteri backwards and a little upwards. In this way you will in many cases succeed in restoring a retroflexed uterus into a position of anteversion and anteflexion. You should then fit her with a Hodge's pessary. The best pattern is one with a convex upper end and a straight lower end, though the angles at the end of this straight lower end should be rounded off. Moreover, the vulcanite should not only be smooth and polished but also should be thick. If it is thin it is apt to hurt, whereas if it is as thick as a No. 9 or 10 Hegar's dilator—that is, a diameter of nine or ten millimetres—it is less likely to hurt. These Hodge's pessaries are made not only in many different shapes but also with many different curves. Doubtless you know them well but on the table are a few examples of different kinds. The one I like best, because it seems on the whole the most comfortable, has a convex upper end, a straight lower end with the corners rounded off, a deep upper curve with the concavity forward, and shallow lower curve with the concavity backward when *in situ*. These pessaries are made in different sizes and each increase in length is accompanied by an increase in width. But for nulliparæ and unmarried women it is necessary as a rule to have special instruments made which, whilst longer, retain a narrow width. Sometimes you will find it necessary to alter the curves and this can be done best by softening the instrument where the increased bend is to be made by dipping it in oil and then moving it to and fro through the flame of a spirit-lamp, taking care not to burn it, which is best avoided by keeping it well oiled. At other times you find that though you get the uterus partially restored it is not in front of the vertical line. If you place a pessary in the vagina and let the patient go about you may find after a few days that the uterus is completely restored but in that case the pessary may be too loose in the vagina and so you can put in a larger one.

In the fitting of all pessaries it is a golden rule that the forefinger should be able to pass fairly easily between the side frame of the pessary and the vaginal wall at any part. If not it is too wide and if it can be passed too easily it is too narrow. Faults in length are estimated usually by the amount of projection of the lower end which ought always to be within the vagina posterior to the plane of the pelvic outlet. In cases where the anterior vaginal wall descends with greater force than usual and drives an otherwise well-fitting instrument too low down so that it slips under the pubic arch it may be necessary to curve the lower end more forwards and sometimes to have the lower end made of much thicker material and in the worst cases the patient may require to wear a perineal pad as well. Indeed, in many cases you will find it advisable to tell your patients to put on a well-fitting diaper or other perineal and vulval support when they know they are going to do something which will for the time greatly increase the intra-abdominal pressure; for example, if they are about to do some heavy work, or play tennis, or golf, or go cycling, dancing, hunting on horseback, &c.

Some cases of retroflexion require a very deep upper curve and occasionally either no lower curve or with the lower end curved forwards. In the last-mentioned case the instrument is crescentic in shape and such a pessary is especially useful where there is some prolapse on bearing down of the anterior vaginal wall and bladder as well as the retroflexion. It may be necessary to have such a pessary made with a very thick lower end in order to make it comfortable to the patient. Without altering the curves or the thickness transverse bars may be placed at the lower end, thus supporting the anterior vaginal wall. I need hardly remind

you that a Hodge's pessary acts as a lever of the first kind, the fulcrum being in the middle, the power at one end, and the weight at the other. No part of the uterus should touch the pessary. During strain the anterior lower bar is forced down more powerfully than the upper convex end which lies in the posterior fornix and hence this upper end moves upwards, the pessary turning a little on an imaginary axis running transversely. So long as this upward force is sufficient to prevent the uterus retroverting so as to get the fundus behind the vertical line the instrument keeps the womb in good position. Sometimes a ring acts similarly as a lever and is more easily tolerated than a Hodge's pessary.

One of the difficulties met with in treating a retroflexion of the uterus is where it is complicated with prolapse of one or both ovaries. Sometimes restoration of the uterus lifts the ovary or ovaries sufficiently out of the way or they can be pushed out upwards with the finger and in some cases although no difference is made yet the patient is quite comfortable. At times, however, the pain caused by the pressure of the upper end of the pessary on the prolapsed ovary cannot be tolerated. You can sometimes remedy this by having the convex upper end made straight or even concave, or one-sided—that is, one side higher than the other. In other cases you are obliged to resort to a soft rubber ring, which does not always remedy the retroflexion and retroversion but may keep the uterus up at such a height as to relieve symptoms. In a few cases, however, no instrument can be tolerated and it may be necessary to discuss operative treatment. In some cases you will find that although the uterus remains more or less retroflexed, the back of the body or fundus uteri resting against the top of the pessary or to one side of it, yet the patient is quite comfortable. If a patient becomes pregnant whilst wearing a ring or a Hodge's pessary it should be removed at the end of the fourth month of gestation. For by that time the uterus is so large that it cannot be driven into retroflexion and so there is no need for the support. Cutter's pessary, which I pass round for your inspection, is effective but has the drawback of an external band. Yet if the ordinary Hodge's pessary fails to keep up the uterus which has been retroflexed it is worth while trying Cutter's instrument.

Prolapses of the vaginal walls are very common and they are associated as a rule with uterine displacement. They can be treated with ring or red rubber cup-and-stem, Hodge's, or cradle pessaries. Hodge's, with specially thick ends or with an upward curve of the lower end or with transverse bars, are useful. Pessaries with a lower end something like the prow of a gondola are at times efficacious. Your ingenuity will often be taxed to find a pessary which is both comfortable and efficient.

Most authorities are agreed that the natural position of the uterus is a state of anteversion with slight anteflexion. Where the anteversion is excessive, and particularly when it is combined with enlargement of the uterus as in subinvolution and with some prolapse, it may cause symptoms which can in most instances be relieved by some form of pessary, of which the best I know is Galabin's cradle pessary. But a ring pessary is often quite successful in relieving symptoms.

Excessive anteflexion is, as a rule, congenital and requires no treatment for itself. It is often associated with, though not necessarily the cause of, dysmenorrhœa and sterility, but the condition is not one that is best treated by pessaries. Indeed, no form of pessary is likely to remedy the defect except an intra-uterine stem pessary and this is so objectionable from many points of view that it is nowadays used by very few, if any. Moreover, when the stem pessary is removed the uterus is apt to return gradually to its former condition.

Lateriflexion and lateriversion when co-existing with retroversion and retroflexion can generally be remedied by the same means as are adopted for the latter. If they are pure lateriflexions and lateriversions they are usually associated with some conditions such as parametritis and perimetritis or some pelvic tumour and they should not be treated by pessaries.

Pessaries may be used to prevent dyspareunia in certain cases. Naturally it is the cradle pessary that is most useful. Galabin's anteversion pessary is the best form I know as, unlike Graily Hewitt's and others, it has no anterior bar and hence is not in the way. Again, a pessary may help to cure sterility, especially in those cases where all the semen, or most of it, is expelled from the vagina immediately *post coitum*. This is due to elastic recoil and spasm and the pessary prevents the walls coming into contact and so allows a larger amount of the seed to be retained. When a retroflexed uterus is restored into a normal position and kept there by means of a Hodge's lever pessary impregnation sometimes follows where there has been sterility previously.

I hope sincerely that after what I have told you to-day about the way in which uterine displacements are produced and the way in which they can be remedied, by going carefully into each case, finding out the cause and putting a stop to it, or at all events minimising it as far as you can by restoring the part as far as may be to its normal position, by fitting a suitable pessary, and by teaching the patient how to manage it herself when possible, you will find very few cases left for operative procedures. Moreover, if you get your patients to follow the instructions I have sketched out you eliminate one of the chief objections to their use—namely, that they become foul and set up, or keep up, a discharge and that they interfere with married life.

Women who derive benefit from the use of pessaries sometimes ask if they will ever be able to do without them. In certain cases of retroflexion when the uterus has been restored and kept in a normal position by a suitable pessary for a time, say a year or more, it is found on removing the instrument that the uterus no longer falls back into misplacement. This is especially so in those cases where you are able to detect the kind of muscular effort which has produced it, and to get the patient to avoid such effort. In some cases of prolapse the patient is able to do without a support ultimately. But no doubt there are many cases where she cannot dispense with it without a recurrence of the trouble.

There is one great advantage in trying to relieve women who suffer from displacements by means of pessaries—namely, that it is, to-day, a treatment that is absolutely free from danger to life; there is no mortality, and it is for that reason, as well as because it has been my experience to meet with few cases in which complete failure occurs, that I am strongly advocating a patient trial of pessaries before resorting to operative procedures which even in the best of hands have a slight immediate mortality, which in itself, apart from other objections, renders it necessary to have very weighty reasons for recommending and carrying out such operations. One writer has said that the day of pessaries is over. I do not think so. On the contrary, I think that they will be used more frequently as the rank and file of the profession come to understand more clearly the principles of their action.

ABSTRACT OF

An Address

ON

INSANITY AND MURDER.

Delivered before the Medico-Legal Society on May 8th, 1906,

BY T. CLAYE SHAW, M.D. LOND., F.R.C.P. LOND.,

LECTURER ON PSYCHOLOGICAL MEDICINE AT ST. BARTHOLOMEW'S HOSPITAL, LONDON.

MR. PRESIDENT AND GENTLEMEN,—I do not propose in this paper to discuss the legal question as to what constitutes insanity of such a degree that the prisoner is spared the extreme consequences of the act and therefore I shall not enlarge upon such subjects as knowledge of right and wrong, the points laid down in McNaughten's case, the question as to what extent of responsibility remains in an insane person, and the knowledge of the individual that he was doing an illegal act. My object is directly concerned with the plan of procedure in murder trials and, whilst acknowledging that under the present process the truth is generally arrived at in the end and justice is satisfied, I contend that the mode of procedure is, not always but sometimes—often indeed—just the reverse of what it should be in that it first condemns the prisoner and then reprieves him on the ground of insanity, that it is illogical to come to a conclusion and then find that one of the necessary predicates (a sound mind) has been incorrectly estimated, and that it is undignified to go through the severe and solemn procedure of a trial as now

conducted when there is good ground for knowing that the chief person interested is of unsound mind and is unfit to give evidence on his own behalf.

I am not of those who affirm that all people who commit murder are insane, either at the time of committing the deed or at the time of trial. There are murderers of sound mind who for reasons apparently vital to what they conceive to be their own interests deliberately compass and bring about the destruction of their victims; there are others who under temporary emotional excitement commit violent assaults which may or may not result in murder; these, too, may be of sound mind, but I contend that in all cases of murder the state of mind of the accused should be ascertained before the trial commences, and if it appears that the prisoner was at the time of committing the act of unsound mind or that he is so at the time of trial then the judge should use his discretion as to whether he will allow the prisoner to plead, but that if otherwise—i.e., if the prisoner is declared to be of sound mind—the trial should go on as usual.

Fear of the death penalty is so strong in this country that it is probably true that many wicked, but sane, people are thereby deterred from murder, hence there is *primâ facie* ground for believing that when one person kills another he is at the time insane and irresponsible and surely this question is of prime importance—is, in fact, the very one on which the result of the trial, the verdict, and sentence should turn, for what is the use of pronouncing the extreme penalty of the law which is afterwards commuted because a condition is found to be present which was not fully appreciated during the trial and which therefore made it impossible to place the facts in their right bearing?

With all due respect I contend that the question of the insanity of a prisoner is one that can only be settled by sworn and unbiased medical evidence, that it is not one that can be left to a jury to determine, and that the question of responsibility in the case of an insane person has no standing because if it is once established that the prisoner is insane the fact of responsibility thereby does not exist. Insanity and responsibility cannot be considered together. There are, of course, degrees of insanity and it may be admitted that many acts of people in whom the signs of insanity are slight are apparently in no degree different from those of sane people, but most murderous acts are based on strong *emotional* foundations and it is just in this element of emotion that the resistance of the insane person is lessened, because emotion is one of the most important constituents of voluntary action. To the non-medical mind the fact that a certain degree of responsibility is accorded to even the inmates of asylums seems to be sufficient for arguing that these people are altogether responsible, whereas a clinical acquaintance with the insane shows that they are not to be trusted and that even the slight confidence at times placed in them is apt to be rudely abused. Practically such slight amount of responsibility as is placed upon them is done with an acceptance of the risk and if anything untoward occurs one is not surprised. Over and over again it comes to pass that fatal occurrences happen in those who being most trusted show how delicately balanced is their modicum of stability and how misplaced has been the confidence. At this moment there are numbers of insane persons going freely about in the community and their relatives and friends know it, but owing to false ideas about the stigma of insanity or to pecuniary or other considerations the knowledge of the condition of the member of the family is kept secret or is disavowed. Let, however, some serious moral *lâche* occur involving legal consequences and the friends at once fly for protection to the ægis of lunacy, and therefore set up distrust in the plea; for why, it is asked, have they up to the psychological moment scoffed at what they now so eagerly press. It is really unfair and unfortunate that when a fault has been committed and no excuse can be found nor yet the guilt denied the plea of insanity should be raised as it so often is, because it is based on the false premiss that all crime is due to insanity, whereas the truth is that only some crime is due to it. There is an excusable repugnance to receiving the plea of insanity for prisoners from people who have all along repudiated the existence of such a condition but who ultimately introduce it as a *pis aller* and urge it with the utmost pertinacity. Why, people say, was this person allowed to mix freely with social surroundings when it was known that he was privately understood to be *non compos*, and yet no measures were taken to protect society? True, but though that may be a reason for blaming the friends of the prisoner it cannot apply to the prisoner himself who could not be expected in the circumstances to compass his own salvation.

I remember on one occasion giving evidence before Mr. Justice Hawkins (now Lord Brampton) on the condition of mind of a young man accused of murdering his mother. There was no doubt about the facts of the murder but the trial must have been of the least possible interest to the prisoner (who was allowed to plead), for he stood in the dock all the time in a condition of acute stupor, quite oblivious to what was passing, and it was not until a late stage in the proceedings that evidence as to the state of mind was called. Instead of occupying nearly two days the whole proceedings might have been settled in an hour if evidence as to the mental condition had been called at once, for the facts of the prosecution were not denied.

I contend that in all trials for murder the state of mind of the prisoner should be first of all inquired into; if he is declared insane the course of the trial would be modified, if declared to have been at the time insane but in good mental health at the time of the trial the facts should be so stated and the usual course pursued. When we know that we have to deal with a sane or an insane person the ground is at once cleared and unnecessary evidence done away with, the verdict follows in due course and is accepted as final, the jury is not placed in the false position of having to determine whether they conclude the question of insanity to be proved or not, and they are saved the responsibility of having to decide such abstruse questions as to how far the knowledge of right and wrong can be admitted as extenuating circumstances.

What is the present procedure? It is by no means the same in all cases. I allow that in some instances it is the custom to send experts to examine the state of mind of the prisoner whilst he is in prison awaiting trial but this is not the invariable rule and even then the conclusion arrived at is not announced at the commencement of the trial, the prisoner being all the time treated as if he was quite sane. In other cases there is no evidence as to the state of mind of the prisoner; the friends, perhaps, are too poor to afford expert testimony or counsel may prefer to trust to the chance of circumstances and the weakness of the clue to obtain a favourable verdict for his client, and it is not until after the trial when an adverse verdict has been given that the question of mental adequacy is raised with a view to commutation of the sentence. It may be said that in all cases the prisoner has during his detention previously to the trial been under the care of the surgeon to the gaol, but whilst acknowledging the independence and the great experience in criminality of the surgeons to prisons they have not all had that clinical knowledge of the insane which is a *sine quâ non* for the true estimation of these difficult questions. I know of one instance in which two men were placed on their trial for a murder committed in very trying circumstances—there was no medical doubt that the conditions which existed at the time when the act was committed were such as to warrant the statement that they were at the time in such a degree of mental impairment that they did not actually understand the responsibility for what they did, but on their trial the counsel for the defence refused to have the plea of insanity brought forward for fear lest they should be sent to Broadmoor; there was no dispute as to the facts but they preferred to run the risk of an adverse verdict to incarceration in a criminal lunatic asylum. They were, as a fact, sentenced to a short term of imprisonment, but most people thought that they should not have been imprisoned at all nor would they in all probability have been if the medical facts had been properly presented at the trial.[1]

It may be argued that the object of the trial is to determine whether or not the prisoner actually committed the offence with which he is charged and that the question of his sanity or insanity has nothing to do with this, and that on any ground it would be wrong to refuse the prisoner a trial because even if insane he might be proved to be innocent of the offence. In the first case, if the prisoner (as often happens) was caught *flagrante delicto* the advantage of authoritative opinion as to his state of mind is evident; if insane he should not be allowed to plead and he would be sent to Broadmoor; if not insane the issue is cleared and the result arrived at without any complication of psychological

[1] Case of the *Mignonette*, Reg. v. Captain Dudley and Stephens (1884), 14 Q. B. D. 273.

arguments. In the second objection—i.e., that though insane the trial should proceed in order to prove that he did or did not perform the deed of which he is accused—the fact of his insanity being known is important because it materially affects the whole course of the trial—in this way, that it prevents the conflict of medical evidence which so often occurs when the question of sanity has to be determined later in the course of the trial. There should be no conflict of this kind. The question is a matter of fact, not one to be determined by puzzling and often irrelevant questions placed before medical witnesses in cross-examination by legal experts skilled in dialectics and naturally anxious to have the best of an argument which is counter to their objects. The book knowledge shown in these cross-examinations is perhaps a testimony to the skill of counsel in mastering the superficialities of a very technical subject but it is not the way to elicit the truth and it cannot be too strongly urged that mere book knowledge and a display of pure metaphysical subtleties are quite inadequate for the present purpose which is the determination by *clinical* experience of the mental state of the accused.

Once the question of the state of mind of the accused is determined all appeals to mere sentiment are knocked out of the case: there is no conflict of medical opinion, there can be no impassioned appeal to the jury to give the benefit of the doubt to a person who has been voted sane by one side but insane by the other, the issue becomes a strictly legal one based on facts and the knowledge that to some extent the result of the trial is thus early determined does not in any way affect the legal question as to whether the prisoner actually committed the deed or not, but it does materially settle the question of responsibility and of the exaction of the extreme penalty.

If a prisoner awaiting trial is examined with reference to his sanity the question may be raised as to whether a true result can be arrived at without improper reference to the crime of which he is accused. There would seem to be a danger here either of obtaining a confession from the prisoner in an unorthodox way or of even suggesting a circumstance which he, being insane, might lay to his own charge, though it was really an error. This objection falls to pieces when it is remembered that it has already been adjudged that he is at least a suspect if he has not been actually guilty of the deed, and there can surely be nothing improper if it be necessary in the course of examination to refer to what has already been openly commented upon and which has been made a charge of which, unless he is profoundly insane, he must be conscious. Moreover, if the friends of the accused wish to set up during the trial the plea of insanity and to produce their own medical evidence for it the prisoner has to be seen and examined before the actual trial by a specially retained medical man whose very examination might suggest a line of conduct to be pursued, unconsciously biased as he might be in the interests of the side on which he has been engaged. Whilst in some cases it is quite easy to determine the state of mind of the prisoner it is in others extremely difficult and it may require a considerable time for its elucidation, because not only has the previous life-history but also the medical history of his ancestors to be ascertained, and it might in some circumstances be necessary to postpone the trial if the medical experts were not satisfied that they had come to a right decision—a much safer proceeding than waiting until after sentence has been pronounced for an expert examination, where there might not be sufficient time for an exhaustive inquiry.

Being anxious to adduce all the arguments that might be brought against my proposition I suppose that some might contend that the demeanour of the prisoner during the trial is important as a sign of his sanity or insanity and that therefore the medical examiner's evidence should be introduced only at the end and as an excusing fact (or the contrary) after evidence on the main point has been given. Such an argument would not be clinically correct, because an insane person may be quite orderly and to all appearances sound during the trial and may comport himself as if actually *compos mentis* and yet he may be all the time very insane and really irresponsible. One thing I must add, I have never known the ordeal and anxiety of a trial cause insanity—if a prisoner is found after sentence to be insane he was almost certainly so before. It is not impossible to conceive that the tension and excitement of a trial might cause insanity, but I never heard of a case in which it has been shown.

But medical men are not infallible and psychology is not an exact science. Many differ on the question of responsibility in insanity, some affirming that to a limited extent the insane may be responsible for what they do, others denying the power of fixing responsibility on them because (they say) we have no means of gauging to what extent, if even at all, an insane person is responsible. It is best to assume that when once found to be insane the question of responsibility must be treated as impossible and therefore must be left out, to some extent giving the prisoner the benefit of the doubt. No one can foretell what an insane person will do and the fact of his being only slightly insane is no criterion as to his actions. The one thing to determine is the question of sanity; the next question is how is this to be done? I suggest that in all trials for murder the prisoner shall be at once examined by Government experts, who shall at the inception of the trial give their sworn opinion on the state of mind of the prisoner and that sworn statement should be final, no subsequent evidence on this point being admitted. The subsequent proceedings will be in the hands of the judge who will direct their course as he deems fit. If the prisoner is found guilty of the deed he will be sent to the criminal asylum; if not so found, but still found to be insane, he would be discharged to his friends, or if he has none he could be dealt with under the existing Lunacy Acts. From the legal point of view the fact of the insanity of the prisoner is a negligible quantity. What the law wants to find out is the doer of the act and to punish him. The medical element comes in and says the man is sane or insane, and this fact should have a great bearing on the course of procedure, for the knowledge of this fact not only prevents needless expenditure of time but safeguards the result of the trial and prevents the incongruity of coming to one conclusion in court and reversing it afterwards. There should be no antagonism between law and medicine in these matters, especially when the question is one of life and death. Both are anxious for justice to the dead and the living. Can the latter have justice if whilst really insane he is treated as though in full possession of his faculties? The court, being early possessed of the mental condition of the prisoner, would not allow the point to be argued in the course of the trial, thus obviating discussion and the introduction of controversial subjects of a technical nature by biased witnesses and relieving the jury of the burden of deciding upon evidence of an extremely technical nature, one for which they are quite unqualified. I cannot, moreover, but think that the judge himself would be rejoiced to be relieved of having to decide first the question of sanity or insanity, argued by medical witnesses of different standing and experience, cross-examined in a more or less involved way by counsel, whose knowledge is not clinical and is therefore incomplete, while he is also saved the apportioning of responsibility, because this question cannot clinically be determined in any case of proved insanity. No one can say to what extent a lunatic is responsible.

It might, perhaps, be thought unreasonable that a prisoner on trial for murder who happened to be of good social position and to be possessed of ample means should be denied permission to call expert evidence on his own side to rebut that given by the Government experts but there is no hardship in our proposal because it is much fairer for society which has to be protected and for the prisoner who also has his rights that skilled and unbiased opinion should be forthcoming to prevent a doubt which may always linger when the decision rests upon judgment between technical arguments which, with all due respect I venture to state it, a purely legal court is not always competent to give. In civil trials where technicalities of a very involved and complicated character are presented on opposite sides it is often difficult to determine the balance of conflicting evidence, but here the issue is not as important as in a murder trial involving the life of the prisoner and the jury in a civil trial may have among it members of special experience in the subject under discussion, but in a murder trial there is no medical man on the jury and no one to appreciate the balance of the conflicting medico-psychological problems often placed before them. Lunacy expert evidence is expensive and there are cases where it may not be considered necessary—cases where the presence of the disease is quite obvious, but even here the evidence of the surgeon of the gaol should be taken first and the fact of the insanity being allowed the principle we contend for is granted.

If expert evidence is not always successful in civil trials

it might be argued that it is equally untrustworthy in criminal cases, but we must remember that it does not follow that because unsuccessful it was therefore wrong and that its very failure may have been due to doubts raised by inferior witnesses whose evidence had to be appraised by a tribunal untrained to distinguish between the true and the false indications.

The total number of criminal lunatics received into asylums in the year 1904 (for all offences) was 235, and of these 128 were certified insane while serving sentences in prison, and one cannot resist the conclusion that many, if not most, of them were actually insane at the time of the trial but that no evidence of it was produced, and therefore that to some extent it may be said that full justice was not awarded to the culprit. It is a serious matter to think that irresponsible persons have been convicted when the actual fact of their irresponsibility has not even been raised at the trial. How much more serious would this be if the possibility of such a lapse occurred in a trial for murder.

[The very full discussion which this paper produced, together with the opinion of the President (Mr. Justice Walton), will be fully reported in Vol. III. of the Transactions of the Medico-Legal Society, London.]

A Series of Lectures

ON

APHASIA.

Delivered before the Royal College of Physicians of Edinburgh

BY BYROM BRAMWELL, M.D. EDIN., F.R.C.P. EDIN., F.R.S. EDIN.,

PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY; LECTURER ON CLINICAL MEDICINE IN THE SCHOOL OF THE ROYAL COLLEGES, EDINBURGH, ETC.

LECTURE III. (*Concluded*).[1]

DERANGEMENTS OF THE AUDITORY SPEECH MECHANISM; WORD DEAFNESS (CENTRAL, SUBCENTRAL, AND SUPRACENTRAL); PSEUDO-SUBCENTRAL AUDITORY APHASIA; TONE DEAFNESS (*continued*).

PICK'S case of subcentral auditory aphasia is also one of great interest and importance but it is by no means a simple or typical case; indeed, it presents some features which it is very difficult to explain. The details of Pick's case are as follows:—

Case of subcentral (subcortical or subpictorial) word deafness with necropsy (A. Pick).[2]—The patient, a man, aged 24 years, was admitted to hospital on Jan. 17th, 1891. There had been three separate cerebral attacks; the first, which occurred ten years before admission to hospital, caused a slight left-sided hemiplegia and a slight disturbance of speech; the second, which occurred four years before admission to hospital, also caused a slight aphasia; the third attack, which occurred three months before admission to hospital, caused mental excitement, but nothing was recorded to show that any motor, sensory, or aphasic symptoms resulted from it.

On the patient's admission to hospital the aphasic symptoms were typically characteristic of subcentral (subcortical or subpictorial) word deafness except in this one particular—viz., that the patient's intelligence was notably impaired. (This was only what might be expected because of the very extensive nature of the brain lesions which were found after death and more especially when it is remembered that *both* auditory speech centres were destroyed.) The patient could hear ordinary sounds, though his ability to hear ordinary sounds seems to have been markedly impaired; he was completely word deaf, he was unable to repeat spoken words, and he was unable to write to dictation. Spontaneous vocal speech was preserved, he understood written speech, he could read aloud, he could write spontaneously, and he could name objects which were shown to him (*this was a most remarkable fact considering the nature of the lesions found at the necropsy*). His intelligence was weakened and his conduct was childish. The patient died on May 12th, 1891 (after being four months under observation in hospital).

Necropsy.—A symmetrical lesion was present in each temporo-sphenoidal lobe. The upper parts of both temporo-sphenoidal lobes were somewhat shrunken, softer than normal, and of a yellowish colour. On the right side the first temporo-sphenoidal convolution, a pretty large part of the second temporo-sphenoidal convolution, the whole of the island of Reil, and small circumscribed areas at the lower end of the ascending frontal and in the third frontal convolutions were softened and of a yellow colour. The white matter below the affected convolutions, the external capsule, the claustrum, and the external part of the lenticular nucleus were also the seat of yellow softening. On the left side the posterior part of the first temporo-sphenoidal convolution and the supramarginal convolution were the seat of yellow softening. In this hemisphere the softening was superficial and did not affect the external capsule or the central ganglia. On this side the island of Reil was intact.

It is very difficult, as Bastian has pointed out, to reconcile the clinical features of this case with the post-mortem findings. The symptoms were, with the exception of the intellectual impairment, typical and characteristic of subcentral (subcortical or subpictorical) word deafness, but the post-mortem examination showed that the posterior part of the temporo-sphenoidal convolution *on both sides* was destroyed; in other words, both auditory *speech centres* were destroyed and yet the patient could recall auditory speech symbols, for he could name objects which were shown to him, he could speak spontaneously, he could read (i.e., understand written speech), and he could read aloud. The only explanation seems to me to be one of the following: 1. That suggested by Bastian—viz., that the patient was a strong "visual"; in other words, that the visual speech centre was in this patient in direct connexion with the associated ("ideational") centres and was able to act either (*a*) directly upon the motor-vocal speech centre (i.e., without acting through the auditory speech centre) or (*b*) indirectly through the "ideational" centres. 2. That in this patient the kinæsthetic word memories were so firmly imprinted that they were capable of being independently revived in consciousness and of taking the place of auditory speech symbols in internal speech and thought and in the regulation and emission of vocal speech—in other words, that in this patient the vocal speech centre (the glosso-kinæsthetic word centre, as Bastian terms it) was in direct connexion with the associated ("ideational") centres, that the revival of the kinæsthetic word memories could in the absence of auditory speech symbols be made use of for the purposes of internal speech and thought, and that the "ideational" centres could directly play upon the vocal speech centre and so enable the patient (in the absence of the auditory speech centre) to speak and to write. 3. That the destruction of the auditory speech centre was incomplete. This is, perhaps, the most probable explanation. And in this connexion it must be remembered that we do not know the exact extent of the auditory speech centre; in some persons, it is perhaps much more extensive than in others; it is not improbable that, in some persons, the portion of the temporal lobe, which Bastian calls the "*annex*" of the auditory speech centre, is in reality a part of the auditory speech centre, or that, as the result of the process of compensation, this annex of the auditory speech centre can, through its connexions with the visual speech centre take up and carry on, in some degree at least, the function of the auditory speech centre (in this case enable the patient to name objects which are shown to him). And in support of this supposition I may point out that the patient was young, aged 24 years, and that the lesion was of long standing (ten years on the right side, four years on the left side); the conditions for compensation, therefore, so far as the age of the patient and the duration of the lesion are concerned, were very favourable. But although it is very difficult to reconcile the clinical symptoms with the post-mortem findings, and to explain the patient's ability to speak spontaneously, to read, to read aloud, and to name objects which were shown to him, when it is remembered that the lesion had destroyed *both* auditory speech centres (i.e., those parts of the brain cortex which are usually supposed to represent the auditory speech centre on both sides of the brain), the case at all events shows, as the case reported by Déjerine and Sérieux also shows, that the clinical symptoms characteristic of subcentral word deafness are (usually) due to a bilateral lesion involving both auditory centres.[3]

[1] Lectures I. and II. and the first part of Lecture III. were published in THE LANCET of Jan. 13th (p. 71), Feb. 10th (p. 351), and June 16th (p. 1671), 1906, respectively.

[2] Archiv für Psychiatrie, Band xxiii., 1891, p. 909.

[3] This case is an important illustration of the fact which is so frequently met with in cases of aphasia—viz., it is often difficult to reconcile the lesions which are met with after death with the symptoms which were present during life. Cases are sometimes met with in which very extensive lesions involving the speech centres are found after death, in which there were few or no marked aphasic symptoms noted during life; the auditory speech centre may, for example, be destroyed and there may have been no word deafness, the motor-vocal centre may be destroyed, and there may have been little or no motor aphasia. I will afterwards refer to cases of this kind in more detail. Cases of this kind show how difficult it often is in cases of aphasia to predict the exact seat, nature, and extent of the lesion. When the aphasic symptoms are typical and well marked there is usually no such difficulty. Exceptions to this statement do, however, occur; a remarkable case has recently come

The position of the lesion in cases of subcentral auditory aphasia.—Theoretically, then, we may assume that the subcentral (subcortical or subpictorial) form of auditory aphasia may be due to: (1) a bilateral lesion which involves but which does not completely destroy *both* lower auditory centres, and as a matter of fact this was the nature of the lesion in Déjerine's case; (2) a bilateral lesion which destroys (or interrupts the conduction through) *the fibres* passing from *both* lower auditory centres to the (left) auditory speech centre; or (3) a unilateral lesion in the left hemisphere which destroys *the fibres* which pass *from both* lower auditory centres to the (left) auditory speech centre.[4]

We can now understand why cases of subcentral (subcortical or subpictorial) auditory word deafness are so rare, for in the first place cases are extremely rare in which a bilateral lesion involves both lower auditory centres or the fibres which pass from both lower auditory centres to the (left) auditory speech centre *and which is limited to these parts*—i.e., which does not at the same time involve the (left) auditory speech centre itself. The left lower auditory centre, as I term it, is directly continuous (anatomically) with the auditory speech centre (the higher auditory centre). This is a very different arrangement from that which obtains in the case of the lower and higher visual centres—the lower (half vision) visual centres (situated in the back part of the occipital lobes) are widely separated (anatomically) from the higher visual centre (visual speech centre), which is situated in the angular gyrus and perhaps adjacent part of the supramarginal convolution.[5] In the second place, it is almost impossible for a lesion on the left side of the brain completely to isolate the left auditory speech centre from the parts below it (i.e., from both lower auditory centres), *without at the same time involving* the auditory speech centre itself *or* the connecting fibres which pass *from* the auditory speech centre to the parts of the cerebral cortex other than both of the lower auditory centres—i.e., to the associated ("ideational") centres. It is very different in the case of subcentral (subcortical or subpictorial) word blindness; a single lesion in the left hemisphere can easily, and frequently does, involve the tracts which pass from both half-vision centres to the visual speech centre; hence the much greater frequency of subcentral word blindness. I will return to this point when I come to speak of visual aphasia. In the third place, in those cases in which the lesion is chronic, compensation may be effected by the auditory speech centre in the right hemisphere taking up and carrying on the auditory speech function. A lesion which involves the fibres which pass from both lower auditory centres to the left auditory speech centre need not necessarily involve the fibres which also pass from both lower auditory centres to the *right* auditory speech centre. Hence, if the auditory speech symbols cannot get to the left auditory speech centre, they may get to the right auditory speech centre; and there is reason to suppose that the right auditory speech centre in most persons readily takes up and carries on, in some degree at least, the function of the left (active) auditory speech centre when that centre is destroyed.

As we shall afterwards see, the visual speech centre in the right hemisphere is very rarely able to take up and carry on (or perhaps it would be better to say is much less capable of taking up and carrying on) the function of the left visual speech centre when it, the *left* (active) visual speech centre, is destroyed. This is another reason why subcentral visual aphasia is so much more common than subcentral auditory aphasia.

PSEUDO-SUBCENTRAL AUDITORY APHASIA.

Before leaving the subject of subcentral (subcortical or subpictorial) word deafness I should add that some writers have suggested that this form of auditory aphasia may be due to disease in the end-organs of hearing. It is said that disease of the end-organ of hearing may interfere with the patient's ability to understand speech sounds, while it does not interfere, or much less markedly interferes, with his ability to hear ordinary sounds. Freund has reported a case of this kind,[6] but I very much doubt whether cases of this description should be considered as cases of auditory aphasia. The details of Freund's case are as follows:—

Case of pseudo-subcentral auditory aphasia (Freund).[7]—A man, aged 22 years, after a severe attack, which was diagnosed as epidemic cerebro-spinal meningitis, suffered from vertigo and disturbance of equilibration and impairment of hearing. Five months after the beginning of the illness his condition was as follows. Hearing was markedly impaired. The patient was completely deaf in the left ear. With the right ear he could hear and intelligently differentiate ordinary sounds, such as whistling, snapping of fingers, clapping of hands, the notes of a violin, a piano, &c. Sounds could be heard in the right ear when not too low, but they were not properly interpreted. High-toned sounds, such as those of a tuning fork, were entirely unperceived in the right (hearing) ear, either when conducted through the air or the bones of the skull; the patient was, however, sensible of the mechanical vibration. A few vowels, such as *a* and *e*, could be heard when they were shouted into the ear. He could correctly understand a few words. As he expressed it, "I hear only the tone of the words and I then must think what they can be." He had good perception of the number of syllables in spoken words; he could readily differentiate words, such as "December" and "June," which were dissimilar in sound, but he was often unable to differentiate words, such as "December" and "September," "June" and "July," which were similar in sound. But he was almost entirely unable to understand spoken words and to write from dictation. Spontaneous speech was intact; the patient was loquacious, there was no paraphasia; the voice was harsh and rasping; he could hear himself talk but the words were not clearly and distinctly heard. When eating he always heard the grinding noise of the teeth. There were no word blindness and no disturbance of vision, motion, or sensation. The absolute deafness in the left ear, the diminished bone conduction and loss of perception for high tones in the right ear, and the normal condition of the ears on otoscopic examination showed that the deafness was not due to middle-ear disease but that it was due to bilateral disease of the internal ear.

That there may in some cases be considerable difficulty in differentiating such cases (for which I suggest the term "pseudo-subcentral" auditory aphasia) from cases of subcentral (subcortical or subpictorial) word deafness due to a cerebral lesion I can quite conceive, just as there may be considerable difficulty in distinguishing some cases in which there is an articulatory defect due to a (bilateral) lesion

under my notice in which marked and persisting aphasic symptoms (word deafness, word blindness, agraphia, and, to a lesser degree, motor vocal aphasia) were present for at least two months and in which no gross lesion was detected after death in any of the speech centres (the brain has not as yet been examined microscopically). But in the reverse case—i.e., where the symptoms are slight and not well marked—it is often hazardous to predict that there is no marked and extensive lesion. Cases of this (apparently anomalous) kind may be explained in one or other of the following ways—viz., (1) by supposing that the corresponding speech centres in the opposite hemisphere take up and carry on the functions of the speech centre which was destroyed; or (2) that the lesion is less complete than it appears to be; or (3) that the speech centre which was destroyed was in the particular individual in question more extensive than in normal individuals. Further, in other cases the compensation is no doubt effected in other ways. The patient may be a strong "visual," a strong "auditive," or a strong "kinæsthetic," and the visual, auditory, or kinæsthetic speech centres may in some degree, so far at all events as the processes of internal speech and thought are concerned, take up and carry on the function of the special centre which was destroyed.

[4] I am speaking of right-handed persons; in left-handed persons the lesion would, of course, be in the right hemisphere.

[5] A. W. Campbell places the visuo-psychic centre in anatomical continuity with the visuo-sensory centre; if I understand him rightly he thinks that the visual speech centre (which, it is generally supposed, is situated in the angular gyrus) is situated farther back—i.e., in the visuo-psychic area. In speaking of word blindness (alexia), he says: "Clinically, many degrees and varieties of this affection may appear, but fortunately there is almost unanimous agreement concerning its pathological anatomy. In ten or more cases which have been carefully examined (those of Monakow, Redlich, Verrey, &c.) the surface lesion has been confined to the region of the left angular gyrus and the second occipital convolution, and usually has spread sufficiently deeply into the underlying white substance to include the fasciculus longitudinalis inferior, an important band of fibres the connexions of which we shall have to mention presently. And although, in some instances, other bands—viz., the fasciculus longitudinalis superior, the occipito-thalamic radiations of Gratiolet, the forceps major, and in a few cases fibres pertaining to the splenium of the corpus callosum—have been involved, the stress of the injury seems always to have fallen on the band first alluded to. Also it is becoming an established doctrine that destruction of the cortex in the region of the angular gyrus by itself, or of the fasciculus longitudinalis inferior by itself, is insufficient to produce alexia; the two must go together, and for the production of the clinical manifestation long and short systems of association fibres necessarily must be destroyed. ..... The fasciculus longitudinalis inferior—stratum sagittale externum (Sachs)—faisceau sensitif (Charcot)—constitutes a uniting band between the occipital and temporal lobes. Running in a sagittal direction it lies lateral to the optic radiations, and in the first part of its course is a massive and well differentiated bundle, but more anteriorly its fibres become confused with those emerging from the internal geniculate bodies, and with others in the thalamic region. However, it is the general belief that the majority of its fibres terminate in the temporal lobe, particularly in the first temporal convolution; it is an equally general assumption that it constitutes the main path of association between the visual and auditory areas, and that its destruction lies at the bottom of that variety of mind blindness which we have referred to under the name alexia. But here let me say that Flechsig dissents from the general belief, contending that the bundle consists of projection and not association fibres."—Histological Studies on the Localisation of Cerebral Function, pp. 139 and 142.

[6] A case of subcentral auditory aphasia in which, however, the position of the lesion was not determined by post mortem examination, reported by Hélot, Houdeville, and Halipré (Revue Neurologique, tome iv., 1896, p. 353), is considered by Déjerine and Sérieux to belong to the same category but I cannot see, after carefully studying it, that there are any sufficient grounds for such a conclusion.

[7] Labyrinthtaubheit und Sprachtaubheit, Wiesbaden, 1895.

in the internal capsule, the pons Varolii, or the medulla oblongata from cases of vocal (motor or emissive) aphasia. But I am not prepared to admit that cases of this kind should be classified as cases of auditory aphasia (1) until it is more clearly proved than at present appears to be the case that disease absolutely located in the end-organ of hearing can produce inability to perceive and understand speech sounds without interfering with the patient's ability to hear and understand ordinary (non-speech) sounds; and (2) unless it is definitely shown that it is impossible to distinguish cases of this kind (cases of *pseudo-subcentral* auditory aphasia as I have ventured to term them) from cases of actual subcentral (subcortical or subpictorial) auditory aphasia the result of a cerebral lesion. In short, in the present position of our knowledge it is, I think, advisable to restrict the term aphasia to those speech derangements which are due to functional disturbance or to organic disease of the *cerebral* speech mechanisms properly so-called.

Possibly in some cases the differential diagnosis of actual subcentral (subcortical or subpictorial) auditory aphasia and of pseudo-subcentral word deafness can only be made by taking into account the nature of the associated symptoms and conditions; for it would appear that the condition of hearing may be somewhat, possibly very, similar in the two conditions (subcentral auditory aphasia and pseudo subcentral auditory aphasia). But the nature of the associated symptoms and physical signs and a careful inquiry into the causation and mode of development of the deafness and of the lesion on which the deafness depends will, I fancy, usually (?always) enable the observer to determine without much difficulty whether the lesion is situated in the end-organ of hearing or the cerebrum.

I may add that the same reasoning also applies, and even more strongly applies, to cases of pseudo-subcentral visual aphasia; for it has also been suggested that derangement or disease in the end-organ of vision may prevent the patient seeing and so understanding written speech characters, while it does not interfere with his power of seeing and understanding ordinary objects.

The clinical characteristics of supracentral (supracortical or suprapictorial) auditory aphasia.—The clinical characteristics of this form of auditory aphasia have not been definitely determined and, in my opinion, it is extremely doubtful whether this variety of aphasia can, or ever does, actually occur in a *complete* form, though it certainly may occur in a partial and incomplete form. Theoretically, *complete* supracentral (supracortical or suprapictorial) aphasia would result from a lesion which did not destroy the auditory speech centre but *which completely isolated it* (the auditory speech centre) from the associated ("ideational") centres. In other words, complete supracentral aphasia would, theoretically, result from a lesion which destroyed the fibres which pass (*a*) from the auditory speech centre to the associated ("ideational") centres—that is, to the whole of the rest of the cortex—and (*b*) from the "ideational" centres—that is, from the whole of the rest of the cortex—to the auditory speech centre, *with the exception of those fibres* (in other words, which did not interrupt the fibres) (1) which pass to the auditory speech centre from the lower auditory centres; and (2) the fibres which pass from the auditory speech centre to the vocal (motor) speech centre.[8] In Fig. 20 I have tried to represent this form of word deafness diagrammatically.

Now, it is very difficult to conceive (practically speaking, it is almost impossible to conceive) that such a lesion would be likely to occur or could, in fact occur, and so far as I know no case of complete supracentral auditory aphasia in which the diagnosis has been established and verified by post-mortem examination is on record. Further, authorities differ as to the nature of the aphasic symptoms which they think cases of supracentral aphasia should, theoretically speaking, present. Again, at the bedside it would often, I expect, be difficult to distinguish a case of complete supracentral auditory aphasia from a general disorganisation or dissolution of the intellectual powers—i.e., from a case of widespread degeneration of the cerebral cortex. But partial or incomplete forms of supracentral auditory aphasia—cases in which a localised lesion interrupts the connexions between the auditory speech centre and one (or perhaps several), *but not all*, of the associated ("ideational") centres—do undoubtedly seem to occur.

Theoretically the aphasic symptoms characteristic of *complete* supracentral auditory aphasia (but, as I have already stated, I do not believe that such a condition occurs) would appear to be the following:—

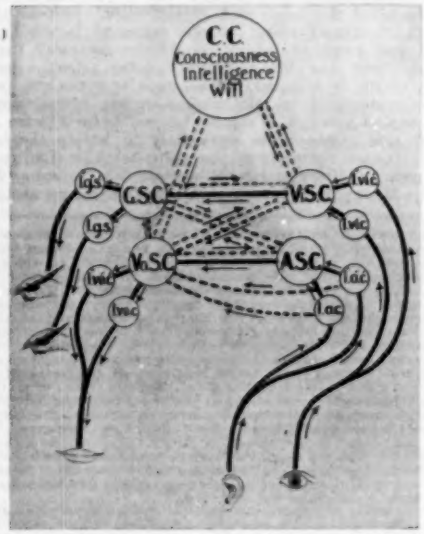
1. The patient would be able to hear ordinary sounds and (?) to understand their meaning.

2. The patient would be able to hear and to understand musical sounds.

3. The patient would be able to hear words as ordinary sounds but he would not understand their meaning, he would be word deaf because the auditory speech centre is cut off from the associated ("ideational") centres in which the meaning of the words is stored. He would be unable to identify objects named to him—i.e., to pick out a knife from a number of other articles when told to do so.

4. The patient would be able to repeat spoken words. *This is said to be the great distinguishing feature between the central and supracentral forms of auditory aphasia.* It is usually thought that in order that spoken speech may be repeated it *must* reach the auditory *speech* centre from which it is passed on, so to speak, to the vocal speech centre in order that it may be emitted. But the correctness of this proposition seems to me very doubtful. There seems every reason to suppose that in some cases of *central* auditory aphasia in which the patient is word deaf and in which the left (active) auditory speech centre appears to be completely destroyed, the patient can repeat spoken language but without understanding the meaning of the words. Such a patient is in the position of a child who repeats a word which he does not understand, or of a foreigner who is able more or less accurately to echo (or repeat) words of a language which he does not understand. As I have already suggested[9] this echo speech may in all probability be effected either by (*a*) the lower auditory centres acting upon the vocal speech centre (along the dotted lines from l.a.c. and l'.a'.c'. to Vo.S.C.), or by (*b*) the right

FIG. 20.



Diagrammatic representation of complete supracentral auditory aphasia. The auditory speech centre (A.S.C.) is completely cut off from all the associated "ideational" centres (C.C. and Vi.S.C., &c.), but still remains in connexion with the vocal speech centre (Vo.S.C.), and, perhaps in some cases, with the graphic speech centre (through the dotted line passing from A.S.C. to G.S.C.). The patient cannot understand the meaning of spoken words; he cannot name objects presented to the other senses (sight, touch, taste, smell); he cannot identify (pick out) objects named to him. He can repeat spoken words without understanding their meaning. He cannot write to dictation, unless a direct connexion should be formed between the auditory speech centre (A.S.C.) and the graphic speech centre (G.S.C.), along the dotted line shown on the figure.

[8] It is necessary to put in this proviso, for if the auditory speech centre were completely isolated from *all* of its connexions, except incoming impressions passing to it from the lower auditory centres and the auditory nerves, the symptoms would of course be identical with those which characterise the central form of auditory aphasia.

[9] Lecture II., THE LANCET, Feb. 10th, 1906, p. 353.

auditory speech centre acting upon the vocal speech centre. And if it be granted that spoken speech can be repeated (echoed) in either of these ways, it must further, I think, be granted that it is impossible to differentiate a case of complete *central* auditory aphasia, from a case of complete *supracentral* auditory aphasia in which echo speech is retained.

5. The patient would not be able to write to dictation. Some authorities—Lichtheim[10] and Wyllie,[11] for example—state that the patient would have no difficulty in writing to dictation (though they admit there would be paragraphia); but I venture to think that this is a mistake. It seems to me that in *complete* supracentral auditory aphasia exactly the same defects in writing would occur as in the central form of auditory aphasia, at least such would appear to be the case in the great majority of instances; for, as we shall afterwards see, in writing to dictation, the spoken words which first reach the auditory speech centre seem next to pass (in most normal individuals at least) to the visual speech centre, from which they flow to the writing centre in order that they may be emitted. In other words, in writing to dictation the nervous impulses seem to pass, *not directly* from the auditory speech centre to the writing (graphic) centre, but *indirectly through the visual speech centre*. In the supracentral form of auditory aphasia the writing impulses would be blocked in their passage from the auditory speech centre to the visual speech centre, while in the central form of auditory aphasia they are blocked in the auditory speech centre itself. But it is perhaps possible that, in some cases, there is a *direct* connexion between the auditory speech centre and the writing (graphic) centre (along the dotted line from A.S.C. to G.S.C.). If this were so, and if this connexion were unaffected by the lesion, the patient would be able to write to dictation. But if this occurs it must be very rare. The proof of its rarity is furnished by the fact that in the great majority of cases of *central visual* aphasia, in which the lesion is confined to the visual speech centre and in which the auditory speech centre and its connexions are quite intact, the patient is unable to write to dictation. Lichtheim and Wyllie perhaps base their opinion on the belief that in writing the emissive impulses pass to the graphic centre through the vocal speech centre. This opinion is, I believe, erroneous; I am of opinion that, in most individuals at all events, the emissive impulses concerned in the act of writing pass *directly* from the visual speech centre to the graphic (? speech) centre and not indirectly through the vocal speech centre. But, whether it is correct or not, it does not alter the fact that destruction of the visual speech centre abolishes the power of writing to dictation, in most individuals at least—a circumstance which shows that *in writing to dictation the ingoing impulses pass not from the auditory speech centre directly to the graphic speech centre but from the auditory speech centre to the visual speech centre*, from which they then pass either (*a*) directly, as I believe, or (*b*) indirectly, as many authorities believe—i.e., through the vocal speech centre—to the graphic centre from which they are finally emitted.

6. Internal speech would be more or less profoundly affected; the patient could not mentally recall and make use of auditory speech symbols, since the connexions between the auditory speech centre and the associated ("ideational") centres are destroyed. Consequently, he could not think in auditory speech symbols; and since, in most individuals at all events, thought is chiefly carried on by means of auditory speech symbols, thought, intellect, and reasoning would, in those cases in which the word deafness was complete, be profoundly affected. In short, in cases of *complete* supracentral auditory aphasia, the auditory speech centre would be as completely separated from the associated ("ideational") cortical centres (other than the lower auditory and the motor-vocal speech centre) as it is in the central form of auditory aphasia. It must, however, be remembered that the process of compensation which is afforded by the establishment of roundabout methods of connexion—new methods of connexion which are totally different from the ordinary channels—appears to be very great. The remarkable cases of Laura Bridgeman and Helen Keller prove this. Hence, if the auditory speech centre, the other speech centres (vocal, visual, and graphic) and the associated ("ideational") centres were intact, in other words, if the lesion simply consisted of a destruction of the connecting fibres which pass between (to and from) the auditory speech centre and (to and from) the associated ("ideational") centres, it is not perhaps impossible to conceive (though this, if it ever occurs, must be most exceptional, more especially in adult aphasic patients in whom the processes of compensation are never so active as in the child[12]) that the "ideational" centres might, in some cases, be able to play back upon the auditory speech centre *through the vocal speech centre* with which they were still in connexion and in this roundabout way might be able to revive in consciousness the memory-pictures of auditory speech symbols (words), which were retained in the auditory speech centre, which was cut off from the "ideational" centres, *but which was not itself destroyed*. A case which I have recorded[13] seems to lend support to this supposition. In it the patient, a married woman, aged 26 years, had a sudden cerebral attack (no doubt embolic) 12 days after her confinement. This was followed by total deafness to all sounds for 16 days, complete word deafness for four weeks, word blindness, and temporary motor aphasia. The motor aphasia was rapidly recovered from, there was partial recovery from the word blindness, and very slow and imperfect recovery from the word deafness. The interesting point in the case in the present connexion was that the patient when asked a question *echoed the last part of it and then after repeating some of the words seemed to understand their meaning, which she was unable to do until she herself spoke (echoed) them*. She seemed to get information as to the meaning of the words by the aid of the ingoing kinæsthetic impressions which resulted from the vocalisation and motor movements attending the production of the words.

7. Objects presented to the other senses would not raise up the appropriate and corresponding auditory speech symbols—the object knife would not recall the word knife. There would also be, in many cases at least, marked defects (1) in spontaneous speech (unless a direct connexion were established between the "ideational" centres and the vocal speech centre, but this, as we shall afterwards see, is of very doubtful occurrence, certainly of very rare occurrence); (2) in reading (i.e., in understanding written speech), since, in most individuals at least, it would seem that written speech symbols have to be translated into auditory speech symbols (i.e., to pass through the auditory speech centre) in order to reach the associated ("ideational") centres; (3) in reading aloud; and (4) in spontaneous writing, since it would appear that, in most individuals at least, ideas are first put into concrete speech form in the auditory speech centre from which, if they are to be emitted in written speech, they pass to the visual speech centre and thence to the writing centre.

I do not lay any emphasis upon the clinical features of *complete* supracentral auditory aphasia; for, as I have already stated, the subject is entirely theoretical; there is, so far as I know, no undoubted case of complete supracentral auditory aphasia, verified by post-mortem examination, on record, and for the reasons given above I strongly doubt whether such a condition ever actually occurs. If complete supracentral auditory aphasia does occur its symptoms would, in my opinion, be identical with those of the central form of auditory aphasia, except in the one particular (and, as I have already pointed out, this point of difference is perhaps not constant)—viz., that in cases of complete supracentral aphasia the patient would be able to repeat spoken words, whereas in (the great majority of cases of) central auditory aphasia the patient is unable to repeat spoken words.

Incomplete or partial supracentral auditory aphasia.—A slight or partial degree of supracentral word deafness does no doubt not unfrequently occur. Cases are, for example, not uncommon in which there is no lesion of the auditory speech centre itself and yet in which the patient is unable to pick out an object, such as a knife, which is named to him; he sees the object and knows what it is, but in consequence of the destruction of the fibres which conduct nervous impulses *from the auditory speech centre to* the visual centre he is not able to pick out the knife when it is named to him.

Further, in cases of partial supracentral auditory aphasia of this description the fibres which carry nervous impulses *from the visual centre to* the auditory speech centre are usually

[10] Brain, vol. vii., 1885, p. 453.
[11] The Disorders of Speech, p. 365.

[12] In the remarkable cases of Laura Bridgeman and Helen Keller the patients were children when the process of compensation (teaching and training of the cerebral functions) was developed.
[13] THE LANCET, May 8th, 1897, p. 1256.

also destroyed; consequently the patient is unable to *name* the object knife when it is shown to him. This is merely one illustration of incomplete supracentral auditory aphasia; other forms may also, of course, occur. The connexions between the auditory speech centre and any of the other ("ideational" and sensory) centres in the cerebral cortex may, of course, be interrupted in the same way; the patient may be unable to name an object which is touched, tasted, smelt, &c.

In many cases of partial supracentral auditory aphasia the symptoms are, practically speaking, the same as in those cases of "*intracentral*" aphasia in which the fibres which connect the auditory speech centre with the higher visual centre (of which the visual speech centre is only a component part) are the seat of the lesion.

TONE DEAFNESS

Before leaving the subject of auditory aphasia it may be well to refer briefly to the condition which has been termed "tone deafness." The phenomena of disease seem to show, as one would *a priori* expect, that a separate and a distinct part of the auditory centre is set apart for the reception and recognition of musical sounds. In rare cases the patient is unable to perceive and recognise musical sounds, as musical sounds, tunes, melodies, &c., while he retains the ability to recognise and understand (*a*) ordinary sounds, and (*b*) speech sounds. The term "auditory amusia" has been given to this condition. The term "amusia" has been applied to derangements of the musical faculty which result from lesions in the higher cerebral nerve apparatus. It would appear that separate and distinct areas of the cerebral cortex are concerned with the reception and registration of musical sounds and of written musical characters, and with the emission of the nervous impulses required for the production of the muscular movements concerned in the production of musical sounds and of written musical characters, and it seems probable that different forms of amusia (auditory, visual, motor-vocal, and graphic), corresponding to the different forms of aphasia, occur.[14]

The part of the auditory centre which is concerned with the reception and registration of musical sounds may be termed the "auditory note centre"; the part of the motor-vocal centre which is concerned with the emission of musical vocal sounds may be termed the "motor-vocal note centre"; the part of the visual centre which is concerned with the reception of written musical characters may be termed the "visual note centre." The same doubt exists as to the presence of a separate centre for the graphic expression of musical characters as we have previously seen exists regarding the presence of a separate and distinct graphic speech centre; this centre (*the graphic musical centre*) is, perhaps, merely a part of the ordinary psycho-motor centre for the upper extremity. And in connexion with this point it must be remembered that ingoing musical impressions which impinge, as it were, either upon the auditory note centre or the visual note centre, or musical impulses, so to speak, which originate spontaneously in the brain (mind), may be translated into motor producing impulses which may be emitted either in the form of—

1. *Song*—i.e., through the vocal note centre—which is perhaps situated in the posterior end of the lower (third) frontal convolution or in the lower end of the ascending frontal convolution, and is probably active *on both sides of the brain*.

The fact that in some cases of motor-vocal aphasia the patient who is unable to speak in the ordinary way is able to sing—i.e., to emit words in song which he cannot emit in ordinary speech—seems to show that the motor-vocal speech centre and the motor-vocal note or tone centre are separate and distinct; in other words, destruction of the posterior end of the lower third left frontal convolution does not necessarily produce motor-vocal amusia. In such circumstances (in cases of motor-vocal aphasia due to destruction of Broca's convolution) musical speech or song may make its way out (be emitted) either through the right vocal speech centre (posterior end of the *right* third frontal convolution) or perhaps through the lower motor centre for the lips, tongue, larynx, &c. (situated in the lower end of the ascending frontal convolution). The latter supposition seems to me less likely in those cases in which the patient is able distinctly to pronounce (articulate) *words* in song.

2. *Written musical characters*—i.e., through the graphic musical centre, which is probably situated in the posterior end of the second frontal convolution or in the adjacent part (middle part) of the ascending frontal and parietal convolutions, and which in most (right-handed) persons is probably active on one (i.e., the left) side of the brain; or—

3. *Instrumental music* (by means of the piano, violin, &c.)—i.e., through the ordinary psycho-motor centre for the upper extremity situated in the middle part of the ascending frontal and ascending parietal convolutions, and since, in playing such instruments as the piano and the violin both hands are actively engaged, this emissive centre must be bilaterally represented—i.e., active on both sides of the brain. Consequently, in addition to musical *agraphia*, a condition of musical *amanua*, as it may be termed, should therefore be described.

It would appear that the action of the motor centres concerned in the production of the muscular movements necessary to write music and to play on a musical instrument, such as the piano or the violin, may be initiated, regulated, and governed either by the auditory note centre or the visual note centre, or by both. It is probable that in the absence of the auditory note centre, a pianist or violinist who is "tone deaf" could not only read and write music, but could play (on the piano, violin, &c.), spontaneously or at sight, provided that the visual note centre had previously been highly trained and developed; his playing would, however, be mechanical, for owing to the absence of the direction of the auditory note centre he would not be able to play with feeling and expression; and in many cases he would in playing probably make mistakes somewhat similar in character to the mistakes in speaking which patients whose auditory speech centre is destroyed make.

A very remarkable and important case of "tone deafness" has been recorded by Edgren. The details are as follows:—

Edgren's Case of Tone Deafness.—Clinical History.—A man, aged 34 years, the day after knocking his head against a lamp-post, complained of severe headache, difficulty in seeing, and mental confusion; he vomited and had illusions of taste. 18 days after the injury the patient, who was an intelligent and musical man, developed "tone deafness" as well as aphasic symptoms; he came home and told his wife that he had been unable to make out the melodies played at a place of public amusement; he had been round to several places to test himself; he could only hear indistinct sounds and was unable to make out any melody; he could not even distinguish between a march and a valse or polka. When his wife spoke to him he did not answer her. During the two following days the patient did not speak. The aphasic symptoms and speech defects disappeared within a month, but his "tone deafness" remained unchanged until his death, which took place three years after the accident, from purpura.

Post-mortem appearances.—The chief post-mortem changes were the following. In the *left* hemisphere the *anterior two-thirds of the superior temporal gyrus* and the *anterior half of the middle temporal gyrus* were destroyed, exposing to view the island of Reil. At the junction of the posterior and middle thirds of the superior temporal gyrus the surface of the brain was sclerosed and adherent to the thickened pia mater. Under this sclerotic patch and for about one centimetre behind it, in the first temporal gyrus, the softening was continued in the grey matter, but was decreasing in depth. The surrounding parts were all healthy. In the *right* hemisphere there was a somewhat similar defect surrounding the horizontal limb of the fissure of Sylvius; in the right hemisphere *the lesion involved the upper and external surface of the superior temporal gyrus in its posterior half* and the lower edge of the supramarginal gyrus for a similar distance. The destruction extended deeply down to the bottom of the fissure of Sylvius, and had spread to the white matter, which was softened to a much greater extent than the grey. The central ganglia and the internal capsule were healthy. Part of the branch of the left middle cerebral artery which supplies the island of Reil was found converted into a fibrous cord and presented a bulbous enlargement. The author attributes the transient aphasic symptoms to the disturbance of circulation caused by this arterial lesion, since the back part of the first and second left temporal gyri (in which the auditory speech centre is situated) were healthy. That the right hemisphere should have taken up the functions of the left temporal lobe seems to the author improbable for two reasons: (1) the short duration of the aphasic symptoms; and (2) the fact that the posterior part of the first temporal gyrus, on the right side, was destroyed. Edgren concludes that the "tone deafness" was due to the destructive lesion in the first and second gyri of the left temporal lobe.[15]

This case seems undoubtedly to show that the auditory centre for musical sounds is separate and distinct from the centre for ordinary hearing and from the auditory speech centre and that a localised cerebral lesion may produce "tone deafness" (auditory amusia or auditory musical aphasia) without producing deafness to ordinary sounds and without producing word deafness.

Now, we have seen that the auditory speech centre is

[14] If the term amusia be substituted for the term aphasia in Table I. the nature of the different (possible) forms of amusia will be at once realised; it must, however, be understood that the occurrence of many of these forms has not as yet been demonstrated in actual practice.

[15] Brit. Med. Jour., vol. ii., 1894, p. 1442.

situated in the posterior part of the first (upper) temporo-sphenoidal convolution (and perhaps in the adjacent part of the second temporo-sphenoidal convolution) and that in the great majority of normal individuals this centre is only active (or only sufficiently active independently to carry on the auditory speech function) on one (the left) side of the brain. Consequently, the absence of any lasting word deafness in Edgren's case is easily explained.

Further, if it be granted that the lower centre for hearing (i.e., for ordinary sounds) and the auditory tone centre are situated in the first or upper temporo-sphenoidal convolution, the lesions which were found in this (Edgren's) case would seem to show (1) that the anterior end of the first temporo-sphenoidal convolution is the lower auditory centre for ordinary sounds; and (2) that the middle part of the temporo-sphenoidal convolution is the auditory centre for musical sounds (the auditory tone centre). In Edgren's case the anterior two-thirds of the first (upper) temporo-sphenoidal convolution on the left side and the posterior half of the first (upper) temporo-sphenoidal convolution on the right side were destroyed. If one were to divide the first (upper) temporo-sphenoidal convolution into three parts and to locate the auditory centre for ordinary sounds in the anterior part, the auditory centre for musical sounds in the middle part, and the auditory centre for speech sounds in the posterior part it would be easy to give an intelligible explanation of the auditory symptoms which were present in this case. On the left side the posterior third of the first left temporo-sphenoidal convolution (the auditory speech centre) remained intact, consequently there was no word deafness. On the right side the anterior part of the first temporo-sphenoidal convolution, which I have suggested may perhaps be the lower auditory centre for ordinary sounds, remained intact and since this centre is active on both sides of the brain the patient was still able to hear and understand ordinary sounds. The middle part of *both* first temporo-sphenoidal convolutions which I have suggested is perhaps the auditory tone centre, was completely destroyed on the left side and partly destroyed on the right side of the brain. This would explain the persistence of the "tone deafness," granting—as I think is probably the case—that the auditory tone centre is, in most normal individuals, active on both sides of the brain. But it must be remembered that such a division of the first (upper) temporo-sphenoidal convolution (the auditory centre as a whole) is purely theoretical. It takes it for granted that the centres for ordinary hearing, for musical sounds, and for speech sounds are all situated in, and confined to, the first or upper temporo-sphenoidal convolution. But, as I have already pointed out, A. W. Campbell's researches seem to show that the lower centre for hearing is situated in the transverse temporal gyri of Heschl; and the cases of word deafness which have been examined post mortem seem to show that the auditory speech centre occupies more than the posterior third of the first (upper) temporo-sphenoidal convolution.

In the present position of our knowledge it is impossible to make an explicit statement as to the exact position of the auditory note centre; but for the reasons given above I am disposed to think that it is probably situated in front of the auditory speech centre, in or near the middle part of the first (upper) temporo-sphenoidal convolution or the adjacent portion of the transverse temporal gyri of Heschl, and that in most normal individuals it is probably active on both sides of the brain. Consequently, if this localisation is correct, complete and permanent "tone deafness" will, in most normal individuals, only result from a *bilateral* lesion which destroys the auditory note centre (the middle part of the upper temporo-sphenoidal convolution or perhaps the adjacent portion of the transverse gyri of Heschl) in each hemisphere of the brain.

One would, *a priori*, expect that the auditory centre for musical sounds would, like the auditory centre for ordinary sounds, be active on both sides of the brain, and the fact that in many cases of auditory aphasia (word deafness) in which the first (upper) left temporo-sphenoidal convolution is extensively destroyed there is no permanent or persisting "tone deafness" seems to give support to this view. It must, however, be remembered that in other cases of word deafness in which the same part of the brain is destroyed the presence of "tone deafness" has been noted, at all events as a temporary condition.

It is unnecessary to say that the musical faculty varies very greatly in different individuals and it is quite possible that in some persons—i.e., in those who inherit a strong musical faculty—the auditory tone centre is active on both sides of the brain, whereas in other persons—i.e., those who have little or no natural musical faculty but in whom a certain degree of musical proficiency is acquired as the result of training and cultivation—the auditory tone centre is active only on one (the left) side of the brain. Further, one may suppose that in the case of highly cultivated and trained musicians who have been taught to read music at sight and to write music the auditory tone centre which was probably in them originally active in both hemispheres of the brain may have come to be chiefly active (located) in the left hemisphere, since there is reason to suppose that the visual tone centre (like the visual speech centre) is in such cases only or chiefly active in one (the left) hemisphere.[16]

The examination of cases of aphasia would seem to show that the emissive or motor centre for the vocal expression of musical sounds is active on both sides of the brain; at all events this would appear to be the fact in those cases of motor-vocal aphasia in which the patient can sing words which he is unable to pronounce in the form of ordinary speech.

PRIMARY PNEUMOCOCCAL ARTHRITIS.

BY W. PASTEUR, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN TO THE MIDDLESEX HOSPITAL;
AND
L. COURTAULD, M.A., M.B., B.C., D.P.H. CANTAB.,
ASSISTANT IN THE BACTERIOLOGICAL LABORATORY, MIDDLESEX HOSPITAL.

PNEUMOCOCCAL affections of joints are well recognised and many instances of the condition have been placed on record. In the great majority of these, however, the joint affection has been secondary, in point of time, to some other pneumococcal lesion of the body, such as pneumonia, empyema, or otitis; or has arisen in the course of a general infection (with endocarditis, meningitis, &c.); whilst the cases in which an arthritis of this nature has occurred as an isolated phenomenon, in the absence of any other signs of infection, so as to merit the name "primary," are few in number.

Frequency: (*a*) *In adults.*—The condition would appear to be very uncommon. Among 56 recorded cases of arthritis due to pneumococcus only two were of primary origin. These 56 cases have been derived from the following sources. Leroux, in his excellent monograph on the subject, collected 26 instances of pneumococcal affections of joints; 23 of these were associated with pneumonia. Of the three remaining, one was strictly primary—that of Widal and Lesné, of which an abstract is given below. In the second case there was found after death a purulent pericarditis, of pneumococcal origin, which was apparently of an earlier date than the arthritis. In the last case it is doubtful whether the joint affection preceded or followed the cerebral lesion. The patient was suffering from an acute inflammation of the ankle-joint and from a right-sided hemiplegia, which was shown after death to be due to a pneumococcal meningitis. No history of the illness could be obtained.

Cave has appended three additional cases to his summary of Leroux's paper, each of them consequent on pneumonia. Raw has had under his own care eight patients suffering from this condition, in each case as a sequel of pneumonia. Herrick has collected 13 examples, but one only, that of Allen and Lull, which is referred to later, was primary. Quite recently Secretan and Wrangham have described six more cases with a history of recent pneumonia in every one. Last year Fornaca published another example of the primary form of pneumococcal arthritis, which, with the case recently in the Middlesex Hospital, brings the total up to four. Without in any way claiming to be exhaustive, this analysis serves to emphasise the rarity of the primary form of the disease.

(*b*) *In children.*—In early life, affections of joints due to pneumococcus, whether primary or secondary, seem to be

[16] In a paper on "Crossed" Aphasia (THE LANCET, June 3rd, 1893, p. 1473), I have directed attention to the influence which the acquirement of the act of reading and writing, perhaps, has in locating the active or driving speech centres (auditory and motor vocal) in the left hemisphere of the brain. The same reasoning applies to the musical faculty.

of more common occurrence. Dudgeon and Branson state that in their experience "pneumococcus practically monopolises the etiology of infective arthritis during infancy and about up to the end of the first hemi-decade." Often there is also present some inflammation of the middle ear and the great importance of this association must be insisted on as providing a probable explanation of the origin of the arthritis. Otitis media is one of the most frequent results of pneumococcal activity during the early years of life. Netter examined 46 consecutive cases of pneumococcal infection in children and found amongst them 29 instances of otitis media. It is a reasonable supposition that at times the inflammatory process in the middle ear may be so trivial in its clinical manifestations as to be entirely overlooked and yet of sufficient severity from a pathological standpoint as to afford the organism an entry into the blood stream and enable it to set up what is apparently a primary arthritis.

Dudgeon and Branson have recorded five cases of suppurative arthritis (pneumococcal) in children. In two of these there was an accompanying otitis media; in one a history of preceding pneumonia; whilst in two the joint affection was the only discoverable lesion. Herzog has published an account of 28 collected cases occurring in children under the age of two years. In four of these no other evidence of infection could be found. He lays particular stress on the importance of disease of the middle ear as a precursor of this condition; he also quotes several other lesions which have been suggested as possibly holding a similar relationship, such as conjunctivitis (Cagnani), follicular stomatitis (Ockmar), and catarrhal angina of the oral cavity (Bichat and Coffert).

Combining these two sets of observations, it is found that out of 38 cases of pneumococcal arthritis in infants and young children, six were primary, a marked contrast to the corresponding figure for adults. But it is not improbable that the frequency of this condition at all ages is greater than these figures would seem to indicate. For when an arthritis of this nature arises quite apart from any signs of infection elsewhere and the patient recovers without operation, it is more than probable that the nature of the pathogenic organism will remain undiscovered.

Pathology.—The exact mode of origin in these cases is not fully understood. It is evident that the channel of infection is the blood stream, and the access of any micro-organism to the blood stream presumably implies some injury to the smaller vessels at the point of attack leading to stasis and possibly to thrombosis. Through the devitalised vessel walls the organisms make their way or small fragments of clot containing bacteria may become detached and infection is in this way disseminated throughout the circulation.

As regards pneumococcus, when this organism determines an arthritis, subsequently to some well-marked lesion elsewhere, such as pneumonia, meningitis, or otitis, the site of entry is evident. In the absence, however, of any such antecedent one must assume that a slight injury of a mucous membrane or of the skin has provided the means of entry. It is in this sense that we have applied the term "primary" to the joint lesion—viz., as implying that the real initial lesion—the spot where the organism has gained access to the circulation—has been so slight as to give no indications of its situation. There is reason to believe that this usually occurs in the middle ear, mouth, naso-pharynx, or tonsils. Diplococcus pneumoniæ is almost constantly present in the saliva and is therefore at hand to seize any favourable opportunity of effecting an entrance into the circulation. Moreover, it has come to be recognised within recent years that this parasite has an important influence on the causation of sore-throat, with or without membranous exudation, very similar to that met with in diphtheria. If a very slight attack of this nature were to pass entirely unrecognised both by patient and medical attendant any ensuing complication would be likely to be classed as primary.

It is therefore evident that there are no grounds for drawing a hard-and-fast line between primary and secondary pneumococcal arthritis. For whether the initial injury be slight or severe, the minute pathological processes which enable the organisms to invade the blood stream are very similar, any difference that exists being one of degree only. At the same time there is a distinction which may be made between the two varieties and which is not without importance in prognosis.

Where the arthritis is primary and localised there is no reason to assume any extensive or lasting infection of the blood. It is reasonable to suppose that by some means or other a batch of pneumococci, possibly a very small one, set free in the circulation has alighted on one of the structures of a joint the protective mechanism of which is at the moment a little below the average, whether owing to injury or some other cause, and has given rise to the inflammation. It is probable that the initial lesion—the site of entry—so trivial that it has escaped detection, will have healed before any considerable number of organisms have made their way into the blood stream. A similar explanation may be applicable to cases of gonorrhœal and certain other forms of infective arthritis. Later, no doubt, the infection may become generalised and the condition pass into one of true septicæmia, the seat of distribution of the organisms being in this event the inflamed joint and not the small initial lesion.

To turn now to a case of secondary arthritis, arising, say, during an attack of pneumonia. The conditions met with here form an almost exact antithesis to those just described. The initial lesion is a gross one, the injury to the lung tissue is severe, and its powers of resistance are almost annihilated for the time being. Moreover, there is an enormous supply of organisms at hand to continue the invasion of the blood stream and these of a degree of virulence much enhanced by their successful struggle with the tissue cells. This distinction, if true, suggests a difference in severity between primary and secondary arthritis of pneumococcal origin, and the hypothesis seems to be borne out by the actual facts. For, after making due allowance for the small number of cases, the recovery of three out of the four patients with primary arthritis described below is in marked contrast with the death-rate of about 65 per cent. for the cases of secondary arthritis.

There remains a group of cases which, from a pathological standpoint, is very puzzling—namely, those in which the symptoms of the joint affection appear some days before the lung trouble. Leroux mentions two cases of this kind in boys, aged respectively five and eight years. In the first of these the arthritis preceded the pneumonia by three days, and in the second by seven days; the former died and the latter recovered. Raw describes the case of a man, aged 52 years, in whom the arthritis preceded the pneumonia by two days; the patient recovered. There are two possible explanations of this unusual sequence of events. Either the arthritis is the primary event and the pneumonia secondary or, where the interval is short, the infection of the joint takes place during the period of incubation of the pneumonia. Owing to this uncertainty of origin we have not classed these cases as primary.

It is not quite clear why diplococcus pneumoniæ should at times show a selective preference for the structures of a joint. Not infrequently there is a history of some previous injury which has apparently determined the localisation of the infection. For instance, Billings describes the case of a man who, shortly before the crisis of pneumonia, became delirious and jumped out of a second-storey window, injuring his left shoulder and right knee. Some days after the crisis both joints became acutely inflamed and distended with pus containing pneumococci. Again, in the case of a newly born child, mentioned below, the joint attacked had been previously injured during a difficult labour. Further, the previous injury may be of pathological origin. Thus, rheumatism and gout appear to render the joints less able to resist bacterial invasion. In this connexion Widal draws attention to the importance of "*causes internes*," such as deficient innervation, in affording what he calls a "*point d'appel*" to organisms.

Experiments on animals throw some light on the question. Ausset inoculated mice and rabbits subcutaneously with cultures of pneumococcus after applying some mechanical injury ("*traumatisme aseptique*") to the joints. In seven out of nine animals there ensued a purulent arthritis. Züber obtained a similar result by the simultaneous injection of terebinth into the joint cavity and of pneumococci beneath the skin, whilst Kasparek has shown that section of the sciatic nerve favours the localisation of any subsequently inoculated organisms in the bones and joints of the enervated limb. But the most interesting series of experiments are those of Bezançon and Griffon who were able to produce an inflammation of the joints of rabbits either by injecting virulent cultures into partially immunised animals or by using cultures for inoculation attenuated by age. In these circumstances they found that the animals did not, as is usually the case, die from a generalised infection within from 24 to 48 hours but developed localised lesions,

especially of the joints, appearing some considerable time after inoculation. They were unable to recover the organism from the tissues after death but found that the serum of the animals had an active agglutinative reaction on pneumococci and also a protective influence against experimental inoculation. Besançon and Griffon regard these results as bearing out the general pathological law that "microbes of attenuated virulence readily attack the various serous structures, especially those of the joints." This line of argument implies that a primary arthritis of pneumococcal origin is to be explained either by weakness of attack or by unwonted resistance on the part of the patient, but this is a matter of conjecture. Nevertheless these experiments serve to emphasise a point of extreme weight in the consideration of the phenomena of bacterial pathogenesis—namely, that these phenomena depend on two factors, the activity and vitality of the invading organism and the defensive powers of the subject attacked, two factors inseparately associated and, as it were, reciprocal; and in order to arrive at any true understanding of the real significance of pathogenesis it is necessary to consider the one with the other.

The degree of immunity or, conversely, of susceptibility in any given instance which finds expression in the severity or variety of the pathological processes that occur, represents the balance struck between these two opposing forces; and inasmuch as both the one and the other are of uncertain stability and liable to variation, so also the susceptibility will be similarly inconstant, and may even become converted into an immunity—that is to say, an organism usually pathogenic may lose its toxic properties.

Illustrative cases.—There follows a short account of four cases of primary pneumococcal arthritis. The first of these refers to a patient recently under the care of one of us (W. P.) in the Middlesex Hospital. The other three have been collected from the literature. A description of a fifth case is appended, which, though not strictly primary, is for many reasons of interest.

CASE 1.—A young man, aged 23 years, landed in England on Sept. 24th in good health and was admitted to the Middlesex Hospital on the following day suffering from an acute inflammation of the right knee-joint. His family history was excellent and he had always enjoyed good health. Four months previously he had a fall from his bicycle, slightly bruising both knees, but was quite recovered in a few days. He had never had gonorrhœa. On the morning after his arrival in London, whilst out walking, he noticed a slight "pricking" sensation in his right knee. This soon gave place to pain which compelled him to lie up on the same afternoon. The onset of the illness was not attended by any sore-throat nor by any feeling of general malaise. On admission the temperature was 102° F. and the face was a little flushed. The right knee-joint was visibly distended by fluid, very tender, and acutely painful. No other joint was affected. The tongue was somewhat furred; the throat was healthy. The thoracic organs were normal and there were at no period of his illness any symptoms of lung disease. The urine was acid, clear, and did not contain flakes. Hot fomentations were applied to the knee and sodium salicylate was prescribed. For the first four days the knee continued to increase in size though the pain gradually became more bearable. On Sept. 29th the temperature had gradually fallen to normal but rose again the same evening and continued to oscillate between normal and 102° until after operation on Oct. 12th when the fever quickly subsided. On Oct. 9th the knee-joint was aspirated and two or three ounces of thin greenish-yellow sero-pus were withdrawn, with marked relief to the patient. A very few capsulated diplococci, exactly resembling pneumococci, were found in the fluid and it was decided to drain the joint. Mr. Andrew Clark operated on Oct. 12th, making a longitudinal incision about two inches long on either side of the joint. A large quantity of greenish sero-pus was evacuated, the joint was thoroughly washed out with warm boric solution, a drainage tube was inserted, and a cyanide gauze dressing was applied. The patient suffered severe pain in the joint the night after operation and was given morphine. The joint was irrigated daily and a considerable quantity of pus came away for the first few days. The discharge of pus had ceased on Oct. 24th and from this date convalescence was rapid. He was sent to the Clacton Convalescent Home on Nov. 8th and returned a few weeks later restored to health and with a perfectly sound joint.

Bacteriological examination.—The examination of the fluid withdrawn from the knee by an exploring needle on Oct. 9th gave no very definite results. It is true that in cover-glass specimens, stained by Löffler's blue and by Gram's method, there could be seen with the microscope a few scattered diplococci resembling diplococcus pneumoniæ both in shape and in staining reactions, but the inoculation of artificial media (three agar and three broth tubes) produced no growth. Moreover, the injection of some of the fluid into the peritoneal cavity of a mouse caused no harmful effect to the animal. However, the microscopical appearances were alone sufficient to justify a strong suspicion that the arthritis was due to the pneumococcus. The case seemed, therefore, to be one of exceptional interest and accordingly an extended series of observations were made with material obtained at the time of the operation. As soon as the joint cavity had been opened some of the blood-stained sero-pus which emerged was collected in a sterilised syringe and utilised as follows:—

1. Cover-glass preparations were made and stained by Löffler's blue and Gram's methods. These showed a small number of diplococci the appearance of which was exactly typical of the pneumococcus. Though few in number they were rather more numerous than those seen in the first specimen of sero-pus. The capsules were very well marked.

2. From the pus were inoculated 37 tubes of various media (agar-agar, glucose-agar, horse serum, gelatin, peptone broth, glucose broth, lactose, and litmus broth); also two Erlenmeyer flasks, each containing 75 cubic centimetres of peptone broth, and one Erlenmeyer flask containing 75 cubic centimetres of milk. The flasks were used because this method had often proved successful in attempting to isolate an organism from fluids in which it is present only in very small numbers when inoculation of tubes in the ordinary way has given a negative result. In this particular case no growth occurred on any of the tubes and one of the flasks also remained sterile. In the other flask of broth a slight general turbidity was seen after incubation at 37° C. for 48 hours. The medium was examined microscopically after 64 hours and was found to contain diplococci retaining Gram's stain, and subcultures from this broth on various media corresponded in every way with those of the pneumococcus. After 64 hours the milk in the third flask showed signs of commencing coagulation. On microscopical examination there were seen a few diplococci but these were quite outnumbered by very many large Gram-staining bacilli. The latter were obviously a contamination, such as is frequently present in milk tubes presumed to be sterile but which have not been tested before inoculation by incubation for 12 hours at 37° C.

3. Some of the pus was injected into the peritoneal cavity of a rabbit and of a mouse; both these animals remained alive and well. Finally, two cubic centimetres of the broth culture mentioned above was injected into a mouse with a similarly negative result.

Comments.—Owing to the failure of the animal experiments the final test of the identity of the organism was lacking, nevertheless there is no reason to doubt that the arthritis was caused by pneumococcus. We base the diagnosis of primary arthritis on the complete absence of sore-throat or general malaise at the time of onset and do not consider that the slight bruising of the knees four months ago invalidates this view of the case. One is naturally tempted to connect the mildness of the illness with the harmless effects of animal inoculation, but such an astonishing discrepancy is sometimes found to exist between the toxicity of an organism towards man and towards animals that the inference would not in our opinion be justified.

CASE 2 (Widal and Lesné, quoted by Leroux, 1899).—The patient was a man, aged 68 years, in the enjoyment of perfect health. He gave no history of previous illness, except that he had been subject to a slight degree of rheumatism in the smaller joints of the hands and feet. One morning, whilst at work apparently in his usual health, he was suddenly seized with severe chills, headache, and general feeling of illness. He was feverish that evening and slightly delirious at night. Next morning he complained of diffuse pains in the left arm which on the following day became localised in the left sterno-clavicular joint and the back of the left hand. On admission to hospital on the eighth day of illness it was found that the left sterno-clavicular joint was swollen to the size of a pigeon's egg and was very tender. On the back of the left hand there was an acutely tender swelling over the third and fourth metacarpal bones.

No fluctuation could be detected in either place. The lungs were quite healthy and no other evidence of disease could be found. The temperature on admission was 102·2° F.; on the following day it fell to normal and did not rise again above this level. The swelling at the back of the hand gradually disappeared during the next few days; that of the sterno-clavicular joint, however, slowly increased in size until fluctuation was felt, and this in spite of a complete absence of general symptoms. A sterilised pipette was introduced into the joint and a few drops of pus were withdrawn. This was found to contain a number of capsulated diplococci, which were proved to be identical with diplococcus pneumoniæ by means of cultures on artificial media and the inoculation of animals. After this the pain and swelling slowly diminished. For eight days they remained entirely absent, and then, without apparent reason, reappeared. Some pus was again withdrawn and examined with exactly similar results. Once more the local symptoms slowly subsided and the patient left the hospital completely cured six weeks after admission.

Comments.—This case presents several points of interest: the sudden onset, resembling pneumonia; the short duration of the constitutional symptoms; the curious recrudescence of the inflammatory process in the sterno-clavicular joint without accompanying rise of temperature. Leroux regards the rheumatic changes in the joints as having been an important factor in determining the situation of the infective process.

CASE 3 (Allen and Lull, 1902).—The patient was a woman, aged 40 years, single, who sought admission to hospital on Jan. 24th on account of pain and swelling in the left knee of two days' standing. During the four days preceding admission she had suffered from "cramps in the abdomen." The patient was deeply offended at being asked if she had had gonorrhœa and absolutely refused to give any account of her illness. The general condition was good although the temperature was 101·4° F. On the following day the joint was distended with fluid and some thick, yellow pus was withdrawn with an aspirator. It was decided at once to lay open and thoroughly to cleanse the joint. On Jan. 27th the general condition was worse with delirium and high fever (103°). The leg was amputated above the knee. The stitches and gauze-drainage wicks were removed on Feb. 3rd when two ounces of sero-pus escaped. The tissues about the wound looked very unhealthy. On the following day the patient's condition was very serious with rigors, delirium, and high fever, the temperature reaching 108° just before death, which occurred that evening.

Bacteriological examination.—The pus from the knee-joint was found to contain typical capsulated diplococci and cultures made from it yielded a growth characteristic of the pneumococcus. No experiments on animals were made. Cultures made from the blood during life remained sterile. Post-mortem examination revealed no other traces of pneumococcal infection.

Comments.—On account of the negative result of the bacterial examination of the blood Allen and Lull regard the fatal ending of this case as due to severe toxæmia, the organisms themselves being confined to the joint but disseminating their poisonous products throughout the body. If this supposition be correct the case is one of exceptional interest. It is, however, well known that the cultivation of organisms from the blood is a matter of some uncertainty and the failure of one attempt to do so cannot be considered as a proof of their absence unless confirmed by repetitions of the attempt.

CASE 4 (Luigi Fornaca, 1905).—The patient was a woman, aged 28 years, married, in the seventh month of pregnancy. On Nov. 15th while in apparent good health she was suddenly seized with severe headache, shivering, and a sense of general illness. Four days later she complained of intense pain in the right elbow and a few hours later in the right knee. She was admitted to hospital on Nov. 19th, the eighth day of illness. The right knee-joint was swollen to thrice its natural size, the skin covering the joint was tense but not reddened, and fluctuation could not be obtained; there were acute pain and tenderness on manipulation. The pain and swelling in the elbow had completely disappeared on admission and the joint appeared to be normal. The pharynx and tonsils were somewhat inflamed and the latter were slightly swollen. On the skin over the right knee-joint were two small pustules, and there was a similar one on the left knee. There was a crop of herpetic vesicles round the mouth. The patient's general condition was good. For the first ten days the temperature ranged between 101·5° and 103°. During this time the headache and rigors continued with spasmodic attacks of pain in the affected joint. After this the temperature assumed a remittent type, finally falling to normal on Dec. 14th. On the second day after admission an exploratory puncture was made into the right knee-joint and some sero-purulent fluid was withdrawn. Aspiration was repeated several times, the withdrawal of fluid from the joint affording much relief. The swelling of the joint remained for ten days after admission and then slowly subsided. The patient was discharged cured on Dec. 19th.

Bacteriological examination.—A full examination was made on the second day of the fluid withdrawn from the joint and of the contents of the pustules. Each of these was found microscopically to contain numerous capsulated diplococci the appearance of which was exactly typical of diplococcus pneumoniæ. Cultures made from these two sources on to agar produced a pure growth of characteristic dew-drop colonies. Some of the pus from the joint was injected into several mice and rabbits, both subcutaneous and intraperitoneal injection being employed. None of the animals died, though some of the mice were obviously ill. But it was found that the virulence of the organisms contained in this pus could be raised by two successive passages through animals to a point at which they were able to produce a fatal result. On the third day after admission a bacteriological examination was made of (1) blood drawn from the median vein; (2) milk squeezed from the breasts; and (3) urine. In each case direct microscopical examination gave a negative result but cultures made in peptone broth yielded a typical growth. These bacteriological examinations were repeated on the fifth and tenth days after admission with a similarly positive result but on the fourteenth day the result was negative.

Comments.—The author refers to the slight inflammation of the tonsils as being the probable initial lesion in this case but he says that there was no exudation or membrane in that region of which a bacteriological examination could be made. Peculiar interest attaches to the wide dissemination of the organisms which is in surprising contrast to the slight severity of the illness. We have failed to find any other record of the isolation of the pneumococcus from the milk and the urine.

The following case, though not strictly primary, is mentioned here on account of the close resemblance which it bears to the laboratory experiments of Ausset, described above.

CASE 5. (Nattan-Larrier, 1905).—This concerns a male infant, born on Sept. 5th, after a long and tedious labour, the presentation being left occipito-anterior. The forceps was not used. At birth the child was found to have a hare-lip, otherwise his condition was satisfactory. The mother was quite healthy. Three days after birth the edges of the hare-lip were freshened and united by sutures. The wound in the lip did not heal well and on Sept. 12th there was a slight serous oozing from it, which on the 15th was distinctly purulent. The child's general condition did not, however, suffer until some days later (the 20th) when there were loss of appetite and vomiting. On the 24th the mother noticed that the boy cried when laid on his right side or when the right shoulder was touched; the general condition was unsatisfactory and the child was losing weight. Two days later he was gravely ill and was admitted to hospital. The shoulder was swollen to the size of a mandarin orange and the skin over the joint was red and œdematous; deep fluctuation could be felt. The spleen was enlarged. The temperature was 100·4° F. Death occurred on the next day. At the post-mortem examination 50 grammes of thick yellow pus were found in the cavity of the shoulder-joint. This pus contained in large numbers an organism which satisfied all of Koch's postulates as to its identity with the pneumococcus. The discharge from the lip was not examined until after death when it also was found to contain numbers of pneumococci. No trace of pneumococcal infection was found in any other part of the body.

Comments.—Nattan-Larrier, with reason, supposes that the right shoulder suffered some injury during labour. Such an event is not uncommon and might in this case explain the localisation of the infective process. If this be so, the injury would exactly correspond to the aseptic traumatism employed by Ausset, whilst the entry of the organisms through the wound in the lip would be closely analogous to subcutaneous inoculation.

Conclusions.—1. Primary pneumococcal arthritis is apparently of rare occurrence in adults. 2. In children it is less uncommon. 3. The path of infection is the blood stream,

to which the organisms gain access through some slight and unnoticed area of injury. This is in all probability situated in the mouth, naso-pharynx, or middle ear and the relative frequency of this form of arthritis in infants and young children may be connected with their susceptibility to inflammatory conditions of these regions. 4. The infection is usually localised at first in one joint and may remain so; on the other hand, it may become generalised. 5. The death-rate in the primary form compares very favourably with that of secondary pneumococcal arthritis. This may be accounted for by the usual restriction of infection in the former, whereas the latter generally implies a more or less pronounced septicæmia. 6. It is probable that the records available do not convey an accurate idea of the frequency of this form of arthritis, as many slight cases, which recover without surgical interference, must escape bacteriological examination.

Bibliography.—D. P. Allen and C. Lull: Annals of Surgery, October, 1901. Bezançon and Griffon: Société de Biologie, July, 1899. E. J. Cave: THE LANCET, Jan. 12th, 1901, p. 82. L. S. Dudgeon and W. P. S. Branson: THE LANCET, August 1st, 1903, p. 316. Luigi Fornaca: Giornale dell'Accademia di Medicina di Torino, March, 1905. J. B. Herrick: American Journal of the Medical Sciences, July, 1902. Hans Herzog: Jahrbuch für Kinderheilkunde, April, 1906. Léon Leroux: Les Arthrites à Pneumocoques, Paris, 1899. Nattan-Larrier: Archives Générales de Médecine de Paris, 1, 1905. W. Pasteur: THE LANCET, May 27th, 1905, p. 1409. Nathan Raw: Brit. Med. Jour., December, 1901. W. B. Secretan and W. Wrangham: Brit. Med. Jour., April, 1906.

Middlesex Hospital, W.

A CASE OF CONGENITAL HYPERTROPHY OF THE PYLORUS.

BY J. W. ROB, M.D. CANTAB.

THE rarity of this disease and the absence of agreement amongst the chief authorities as to the best treatment of it make the publication of every case advisable. The following is a brief summary of the main symptoms as expressed by most of the writers on the subject. From 80 to 85 per cent. of the cases are in males. The family history is unimportant. The symptoms do not appear until the baby is about a month old and then the primary symptom is persistent, intractable, copious, forcible vomiting which is uninfluenced by diet. No apparent cause for the vomiting exists. The characteristic feature of the vomiting is its forcibleness. It is not frequent and there is no bile in the vomit. There are progressive loss of weight, visible gastric peristalsis, a tumour in the pyloric region, dilatation of the stomach, constipation as a rule, and a normal or subnormal temperature.

The patient in my case was born on Oct. 25th, 1905, and was a fine, healthy boy. At first he was fed at the breast and seemed to be doing well but on Nov. 16th, as he did not seem to be gaining weight he was fed on a mixture of cow's milk (one part) and barley water (two parts), two ounces every two hours. On the 19th, as there was no improvement he was given the same amount of a mixture of milk (two parts) and barley water (three parts) with one drachm of cream in each ounce. There was no improvement, however, on this food and the child became very constipated. On the 20th he vomited for the first time at 9 A.M., about an hour after a feed. The amount of the vomit was about four ounces. It consisted only of undigested food. The vomiting came on suddenly without obvious cause and was very forcible, the contents of the stomach being vigorously pumped up in big gushes. About 6 P.M. on the same day a second vomit of about three ounces occurred. The average capacity of the stomach of a baby of a month old being about from two and a half ounces to three ounces the stomach in this case was already dilated at least a third. The temperature was normal; there did not seem to be any abdominal pain and the tongue was clean. On the 21st the food was changed to equal parts of milk, lime-water, and water, but the baby vomited again twice at the same hours, about the same amount, and in the same way.

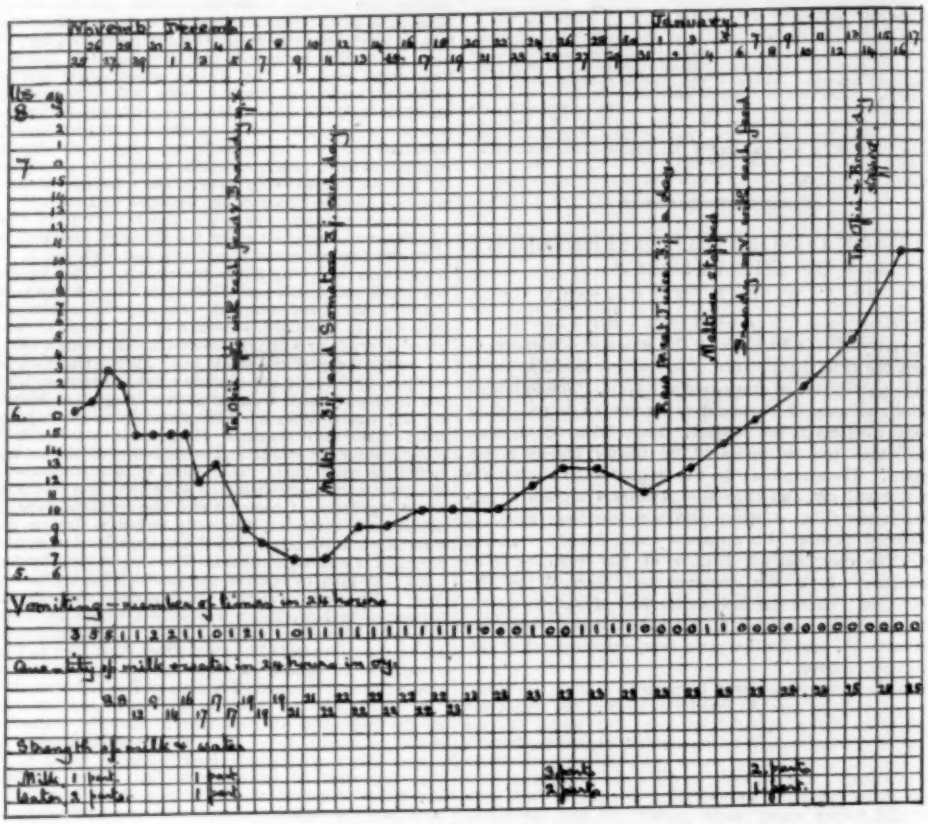
Dr. Robert Hutchison saw the baby on Nov. 22nd. The question of hypertrophy of the pylorus was raised but dismissed because no gastric peristalsis could be seen. This was no doubt due to the fact that the baby vomited shortly before examination. Vomiting occurred on this day the same as previously. Wasting was now obvious to the eye. The epigastrium was prominent. The temperature was 97·8° F. The food was changed to a mixture of peptonised milk (one part) and water (two parts) with one drachm of milk sugar in each feed. No benefit resulted from this. Vomiting continued as before. The temperature remained subnormal. Constipation was still troublesome. On the 24th one-sixth of a grain of mercury with chalk was given three times a day but with no result. In the evening of this day, as vomiting had already taken place three times, no food but only hot water in doses of one drachm every half hour was given for six hours. The vomiting, however, continued. On the 25th the food was changed to Allen and Hanburys No. 1 and two grains of carbonate of bismuth were given every two hours. The child was by this time very wasted indeed. The face was white and shrivelled, the eyes were sunken, and the lips were blue. The skin was hanging in loose folds on the arms and legs. The temperature was 97°. The epigastrium was full. Gastric peristalsis was clearly seen. Dr. Hutchison saw the baby again in the evening. The child was fed just before examination and gastric peristalsis was well marked. No definite pyloric tumour could be felt. A diagnosis of hypertrophy of the pylorus was made and the line of treatment adopted was that of washing out the stomach every day and feeding on peptonised milk (one part) and water (two parts) in feeds of half an ounce every hour. The question of operation was discussed on this occasion and also on Dec. 9th.

The accompanying chart tells the history from this date. The baby was weighed after the stomach had been washed out. He was undressed completely and wrapped in a shawl which was weighed alone afterwards. The temperature continued subnormal until Dec. 18th, when it rose to normal, where it has since remained. Constipation was a difficulty at first. On Nov. 27th one-sixth of a grain of calomel was given every hour until the bowels acted. This was repeated on several occasions until Dec. 11th. On that day in addition to the milk one drachm of somatose was dissolved in ten drachms of cold water and two drachms of brandy were added; one drachm of this mixture was given after each feed. Also two drachms of maltine were mixed with eight drachms of water and one drachm of the mixture was added to each feed. The effect of the somatose on the constipation was excellent. The bowels, as a rule, after this acted regularly. Once or twice the motions were dark in colour and slimy but this only lasted a day or two. In February the somatose was discontinued but as constipation returned it was begun again. The weight steadily decreased until Dec. 11th in spite of the vomiting having become less. The daily records during this period were as follows: 6 pounds on Nov. 25th; 6 pounds 1 ounce on Nov. 26th; 6 pounds 3 ounces on Nov. 27th; 6 pounds 2 ounces on Nov. 28th; 5 pounds 15 ounces from Nov. 29th to Dec. 2nd; 5 pounds 12 ounces on Dec. 3rd; 5 pounds 9 ounces on Dec. 6th; and 5 pounds 7 ounces on Dec. 9th and 11th.

It is difficult to describe the appearance of the baby at the beginning of December. Nobody really believed that he would live. He was wasted to an extreme degree and was so feeble that it was a matter of surprise that he was in existence at all. The dilatation of the stomach continued for a long time. At the end of February the stomach held six ounces easily, whereas the normal capacity of the organ at the age of four months is only four ounces. Peristalsis was well marked until the middle of January when it disappeared. A pyloric tumour was felt on Dec. 4th distinctly, not very distinctly about a fortnight later, and not at all about the middle of January. The quantity of food taken is shown on the chart. At first half-ounce feeds were given every hour. On Nov. 29th this was increased to six drachms every hour, on Dec. 1st to one ounce every hour and a half, on the 3rd to 12 drachms every two hours, and on the 5th to two ounces every two hours, and on Jan. 1st to three ounces every two and a half hours. At first, though the baby seemed hungry, he did not take his food well. A few mouthfuls satisfied him and the remainder of the feed had usually to be given with a spoon. However, this passed off about the end of December and he has since taken his food well from a bottle.

On Dec. 5th as the child was only vomiting once a day and the amount was not so large as formerly nor the vomiting so forcible it was decided to wash out the stomach on alternate days and to give one-eightieth of a minim of tincture of opium 20 minutes before each feed. This was

done by putting one minim of tincture of opium with one ounce of compound infusion of orange peel and making up to ten ounces with water and giving one drachm for a dose.[1] Even this minute dose of opium had an effect, for on Dec. 7th the pupils were very small. The baby was always more comfortable after having had his stomach washed out. He took a feed afterwards and went to sleep. At first the stomach was usually washed out at about 5 P.M. but as it was found that he usually vomited about 2 P.M. the time was changed on Dec. 20th to 1 P.M. The weighing of the child was commenced on Nov. 25th and was continued at intervals of two or three days up to Feb. 8th, 1906. (See the accompanying chart). The decline from Nov. 25th to Dec. 11th has been already mentioned. After this latter date there was a continuous rise in weight, the



Clinical chart showing weight of infant and quantity of food taken.

successive stages of which were as follows: 5 pounds 9 ounces on Dec. 13th and 15th; 5 pounds 10 ounces on Dec. 17th, 19th, and 22nd; 5 pounds 12 ounces on Dec. 26th and 28th and Jan. 3rd; 5 pounds 15 ounces on Jan. 7th; 6 pounds 4 ounces on Jan. 13th; 6 pounds 10 ounces on Jan. 16th and 19th; 6 pounds 15 ounces on Jan. 25th; 7 pounds 3 ounces on Jan. 29th; and 7 pounds 13 ounces on Feb. 8th.

After the end of December vomiting practically ceased. The strength of the food was increased on Dec. 3rd to equal parts of peptonised milk and water, on the 25th to three parts of milk and two of water, on Jan. 7th to two of milk and one of water, and on the 21st to three of milk and one of water. One drachm of milk sugar was put in each feed. Raw meat juice was tried on Dec. 5th but caused vomiting. On Jan. 1st it was tried again. Only one drachm was given in the day but as no trouble ensued it was increased to four drachms in the day. This was discontinued in February. The days on which the stomach was washed out are the same as those on which the weight is recorded on the chart.

The later history is that there have been no vomiting and a steady gain in weight of nearly an ounce a day. The weight was 8 pounds on Feb. 25th, 9 pounds 5 ounces on March 21st, 10 pounds 1 ounce on March 31st, 11 pounds on April 16th, 12 pounds on May 6th, and 13 pounds 10 ounces on June 2nd. The temperature has remained normal. The capacity of the stomach was about six ounces at the middle of April. There is now no fulness of the epigastrium and no peristalsis can be seen. The baby is fat and vigorous and looks healthy and is quite happy. He has cut two teeth. On April 10th one feed a day of unpeptonised milk diluted with an equal quantity of water was started and taken so well that on April 16th two similar feeds a day were begun. On May 5th alternate feeds of peptonised and unpeptonised milk were begun and at the end of May peptonised milk was discontinued and only unpeptonised milk given. One grain of sodium citrate was added to each ounce of unpeptonised milk.

Weybridge.

[1] See THE LANCET, Nov. 25th, 1905, p. 1544.

SOCIETY OF ARTS.—The Council of the Society of Arts has awarded the society's silver medal to the following, among other, readers of papers during the session just completed: Dr. William Arthur Aikin, Aspects of Voice Development; Mr. Leon Gaster, A.M.I.E.E., Progress in Electric Lighting; Professor Thomas Oliver, Bridge Building by means of Caissons; and Dr. George A. Grierson, C.I.E., the Languages of India.

ORIENTALISM: OR A CHANGE TO AN EASTERN APPEARANCE.

BY H. WORK DODD, F.R.C.S. ENG., &c.,

OPHTHALMIC SURGEON TO, AND CLINICAL LECTURER ON OPHTHALMIC MEDICINE AND SURGERY AT, THE ROYAL FREE HOSPITAL, ETC.

THE patient, a man, aged 47 years, complained of weakness and change of appearance. He seemed to have been quite healthy till the year 1898. He then developed ptosis of the right eyelid, followed shortly by ptosis and external strabismus on the left side. He was admitted to the Royal Westminster Ophthalmic Hospital in the autumn of 1898 and the right eyelid was successfully operated on by Mr. Dodd. In June, 1899, the patient was admitted into the Royal Free Hospital, under the care of Dr. H. Sainsbury. He was then complaining of general weakness and vague alterations of sensation. At this time, on careful examination, nothing abnormal was detected in any organ or system. The patient remained in the hospital for three weeks, during which time his general condition somewhat improved, though he remained nervous and depressed. After a holiday of some weeks' duration he was able to return to work and during the next seven years, though generally able to work, he remained weak.

The patient is one of nine children, eight of whom are living and healthy. He was born in London, where he had lived most of his life. He has always been in a position to obtain good food and clothing. He contracted syphilis 18 years ago, for which he was treated for eight months. The patient's family history is not of importance beyond the fact that one of his eight children has interstitial keratitis.

The patient at present is 5 feet 8 inches in height, is spare, with a marked stoop. His complexion is sallow; his lips are thick, everted, and bluish. His nose is fleshy and abnormally flexible and his hair is sparse. His whole aspect is distinctly Tartar or Mongolian in type. He is saved from being definitely Mongolian in face by the tilt of his eyes, which is not upwards, and their colour, which is a dullish blue. His skin is soft, thin, and delicate like a woman's, and it is normal in moisture and elasticity. The electrical resistance of the skin is normal. The hair of the head is sparse, fine, and silky, it is mouse-coloured and tends to be light at the ends and has no gloss. The moustache is thin, short, and scanty. The chin and cheeks have a few scattered hairs but not sufficient to necessitate shaving. Over the pubic region are a few hairs but the axillæ and the rest of the body are quite hairless. The nails of the hands are normal but those of the feet are brittle and broken. The sweat glands secrete normally. The mucous membranes are normal. The teeth are fairly good. The circulatory and respiratory systems are quite normal. The alimentary system is normal. The liver can be felt just below the costal margin. The spleen is not felt. The urinary system is quite normal. Careful examination of the urine shows no abnormal constituents or deposits. The muscles generally are weak and flabby, especially those of the arms. All movements can be performed, but in the arms they are distinctly weak. Coördination is not good, either in the hands or the feet.

There are considerable alteration and impairment of sensation to touch, pain, heat, and cold. But these alterations are never constant. The third nerve is partially paralysed, as is shown by the ptosis of the left eye and the left external squint. The pupils are equal, normal in size, and react somewhat sluggishly. There is some hemiatrophy of the tongue on the right side and when protruded it inclines slightly to the right side. There are no other paralyses.

FIG. 1.

Mr. H. Work Dodd's original case.

FIG. 2.

Mr. H. Work Dodd's original case.

The knee-jerks are present, equal, and are not increased. There is no ankle clonus. The plantar reflex is normal. The abdominal reflexes cannot be obtained owing to rigidity. Defæcation and micturition are normal. Sexual desire and power are said to be completely lost. No enlarged glands can be detected. The thyroid gland cannot be felt. The testicles are smaller than usual, unequal in size, abnormally tender and soft, and give one the impression of being atrophied. A complete blood examination showed no abnormality. The patient always seems rather sleepy. His memory is somewhat bad, both for recent and long-standing events. The ophthalmoscope showed no abnormalities and the visual acuteness is normal in both eyes.

The above notes have been taken by Mr. O. F. H. Atkey, senior resident medical officer at the Royal Free Hospital, practically independently of me, to show an unbiased picture of the state of this man who has been under my observation off and on since the autumn of 1898, rather more than seven years, and who during that time has changed in a marked degree. When he first came to me he was a fine, upstanding, vigorous, athletic man. He then stood 5 feet 10¾ inches and weighed 16 stones 4 pounds, was

very muscular, and in no way cumbered with fat. He states that when a young man he beat all opponents as an amateur high jumper for about three years, clearing 6 feet 2 inches. He was florid, had a thick head of hair of a lightish brown colour, a thick, long, blonde moustache, otherwise his face was clean shaven, and he says that the growth of hair here was so rapid that he has had to shave a second time in the day if he wished to look especially smart in the evening. At this time I operated successfully on his right eyelid for ptosis; subsequently his left lid fell. The latter was not operated on from fear of the resulting diplopia.

In June, 1899, he came again to the Royal Westminster Ophthalmic Hospital to see me because he felt so ill generally and his appearance was so peculiar that I thought it better to transfer him to the Royal Free Hospital under the care of my colleague, Dr. Sainsbury, to whom I suggested that this might be a case of acute myxœdema. He was in the hospital for three weeks and nothing abnormal was detected in any organ or system. It was after this illness that the changes of appearance, &c., began to take place and these have continued until now he has practically changed his identity, for from being a finely developed

FIG. 3.

Dr. Harry Campbell's case.

erect man of 5 feet 10½ inches in height and 16 stones 4 pounds in weight, masculine, vigorous, athletic, with plenty of hair of a light brown colour, a long blond moustache and altogether fair in appearance, he has become in a few years smaller, stooping, 5 feet 8 inches in height, weighing 11 stones 11 pounds, he is emasculate and weak, his hair has changed to mouse colour, his moustache cannot grow a hair longer than a quarter of an inch and both are soft and sparse, his chin never needs a razor, his complexion is sallow, and his whole aspect is darker than before. His fellow workers have christened him "the Japanee," though I fancy the late war may have influenced them in the choice of this name, for his type is not quite Japanese. Formerly he was a cheerful, capable, quick-moving, intelligent man, with something of a sailor's readiness to "lend a hand" to anything that came along. Now, when not occupied, he is somewhat apathetic, a condition which adds something to his Eastern bearing. All this change has occurred without anyone being able to discover a cause and I need hardly say that he has been examined repeatedly and most thoroughly both by my colleagues and myself. The fact that he has had syphilis has naturally to be remembered but it must not be forgotten that the above mentioned alterations only began with the obscure illness for which he was in the Royal Free Hospital in 1899. I am reduced to thinking that possibly changes have taken place in some important elaborating structure, testicular, thyroid, or elsewhere. In this connexion the condition of the testicles is worth noting. There has been no local disease to explain the atrophy of these organs.

In July, 1904, Dr. L. Vernon-Jones sent me a man, aged 48 years, concerning his vision and I noticed that he had the characteristic appearance of my own patient. He had had a severe obscure illness in 1902 and since then the changes had taken place which rendered him remarkably like my case whom I subsequently sent to Dr. Vernon-Jones that he might examine him. He agrees with me that the two men must be suffering from the same condition. Here there is a very doubtful history of syphilis having occurred several years ago.

Another man, aged 46 years, has been under the care of my colleague Dr. Harry Campbell at the Hospital for Nervous Diseases, Welbeck-street, and he resembles strongly my original case. He says he has changed in appearance during the last few months and I have seen a photograph

FIG. 4.

Dr. Harry Campbell's case.

of him, taken some time ago, which corroborates his statement. When 19 years of age he had syphilis.

Naturally the extraordinary symptoms of the above cases have directed my attention to this peculiar state and have brought back to my mind other patients whom I realise now must be included in the same category. I remember a man, aged about 50 years, suffering from diabetes insipidus, who some years ago was an in-patient of the Royal Free Hospital, who had the same appearance as my patient, but I do not know if any change had taken place in his case or whether he had been of this curious type originally. I have searched for this man but unsuccessfully. Also I remember the late Mr. John Griffiths had under treatment at the Royal Westminster Ophthalmic Hospital a few years ago a man, aged about 50 years, who also came well into this class, but here, again, I do not know whether any change had taken place in his appearance but I do recall placing him by the side of my own case and demonstrating their peculiarities and resemblances to the students. Again I am unable to find this case.

I am certain that I have seen other cases of this type, though perhaps not so well defined, and just as we sometimes in our travels come across a slight myxœdema or

acromegaly, so I think I notice occasionally people bearing the marks of the above condition in a greater or less degree. I do not call to mind seeing anything similar in women.

So far as I know these cases do not fall into any yet recognised class; it may be they form a type of themselves and I have been induced to publish these notes in the hope that others who may have had greater opportunities than I have had will bring forward other cases and by the aid of their experience add to our knowledge of this state.

Harley-street, W.

A CASE OF

EPITHELIOMA OF THE TONGUE WITH SECONDARY GROWTHS IN THE GLANDS OF THE NECK AND THE LIVER TREATED BY X RAYS,

WITH HISTOLOGICAL CHANGES IN THE PRIMARY AND SECONDARY GROWTHS.

BY ROBERT KNOX, M.D. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.,

CLINICAL ASSISTANT, GREAT NORTHERN CENTRAL HOSPITAL.

THE interest of the following record of a case of carcinoma of the tongue centres in the apparent arrest of the primary growth and the changes occurring in the several glands in the neck. The histological examination of the sections from the affected tissues shows marked changes as a result of the direct application of the rays to the parts. The first gland to appear in the neck had most of the treatment applied to it and it showed the more advanced changes. The primary growth in the tongue was evidently influenced by the applications, though being further removed from the seat of application it did not get as thorough treatment as one could have wished. The changes in the primary growth and the secondary glandular ones show that all were influenced to some extent by the rays. The growths in the liver were not treated by this method and did not appear to be in any way altered; once this organ had become affected the downward progress of the case was very rapid.

Early in June, 1904, the patient consulted me about a swelling in the right side of the neck. He had noticed it several months before, but did not think it was anything serious. The swelling was glandular and situated under the angle of the jaw; it was rounded, irregular, and very hard. Suspecting a malignant growth in the tongue with a secondary glandular affection I sent him to the Great Northern Central Hospital, where he was seen by Mr. V. W. Low, who very kindly sent me the following report: "I have seen your patient and find that besides the indurated gland behind the angle of the jaw there is an indurated area about the size of the end of one's finger on the right side of the dorsum of the tongue about as far back as the epiglottis. I am very much afraid that it is an epithelioma and having regard to its situation it will mean an extensive operation to get rid of it." The patient was admitted to the hospital, anæsthetised, and a thorough examination of the parts was made, the diagnosis was confirmed, and an operation was recommended. This the patient refused to submit to and was discharged.

Recognising the impossibility of effecting any permanent benefit from the use of the rays I determined to try the use of this agent as a means of relieving the pain and possibly of arresting the rapidity of the growth. It was impossible to get at the original seat of the mischief in the tongue, so attention was directed to the gland in the neck which at the time was of about the size of a large walnut. Treatment was begun and continued daily, at first for about three weeks, then every alternate day until November, 1904. In all, the patient received 50 applications of about ten minutes' duration.

The apparatus used consisted of a 10-inch spark induction coil and turbinia jet interrupter worked from a direct lighting supply of 240 volts pressure. The tube was one of Messrs. Watson and Sons' "Improved Penetrator" pattern of medium hardness shielded by a screen of lead glass. Treatment commenced with the anti-cathode of the tube 12 inches away from the patient with an exposure of five minutes. After the seventh application the gland was noticed to be smaller and the exposure was increased to eight minutes, the tube being the same distance away as hitherto. After the tenth application a slight superficial reaction took place. The treatment was continued for four more days, when on account of the reaction it was discontinued for 14 days until the reaction subsided. Treatment was again commenced, the exposure being increased to ten minutes with the tube the same distance away. This treatment was continued for 16 times until it was again discontinued on account of a recurrence of the reaction. The later applications at first were given at regular times, a day being allowed between each. Towards the end of the treatment the applications were more irregular. When the symptoms of liver involvement became evident the treatment was stopped. The size of the swelling diminished considerably, pain almost disappeared, and the patient began to increase in weight; he was able to resume his employment and continued to work for several months.

Early in 1905 the patient began to complain of pains in the stomach. The lower border of the liver was found to be enlarged and a distinct nodular swelling could be felt upon its surface; later ascites appeared and he gradually sank from exhaustion. He died in July, 1905, and up to the time of his death the primary growth on the tongue gave no trouble and had not increased in size. The original gland did not enlarge. Later a smaller gland appeared to the outer side of the first one but it did not give rise to any trouble. Late in the history of the case a small nodular enlarged gland appeared on the left side of the neck. The patient died as a result of the secondary implication of his liver and was not at all inconvenienced by the primary mischief. Before his death he had several severe attacks of hæmatemesis which rapidly hastened his end.

A necropsy was conducted 24 hours after death and the following particulars were noted. The body was very emaciated. The abdomen was greatly distended by fluid and there was general dropsy of the lower extremities. On the right side of the dorsum of the tongue close to, but not involving, the epiglottis a small shrunken growth was found; it was about half an inch long by a quarter of an inch broad and appeared to involve the mucous and muscular structures of the tongue; it was papillary in character and was not particularly hard. The surrounding structures were pale and did not appear to be affected by the growth. What struck one was the small size, the shrunken character of the tumour, and the absence of any marked infiltration of surrounding parts. The larynx was normal. On the right side of the neck two glands, enlarged and matted together, were found; on the left side of the neck a smaller hard gland was present. The abdomen contained a large quantity of straw-coloured fluid. The liver was greatly enlarged and throughout its substance scattered masses of new growth of various sizes were seen. The peritoneum was unaffected. The kidneys were fatty but otherwise normal. The spleen was somewhat enlarged but was not invaded by new growth. The stomach was catarrhal and congested. The thoracic organs were not affected. The brain was not examined. The whole of the growth in the tongue was removed for examination, as were also the glands in the neck and one section from the liver. These I shall refer to later as—A. Primary growth from the dorsum of the tongue. B. Primary gland on the right side of the neck. C. Secondary gland on the right side of the neck. D. Gland from the left side of the neck. E. Section from growth in the liver.

HISTOLOGICAL EXAMINATION.

A. *Growth from the base of the tongue.*—This growth is a squamous epithelioma showing the typical pearls and large masses and clusters of epithelial cells, which for the most part are smaller than usual, invading muscular fibrous tissue. There is much round-celled infiltration present.

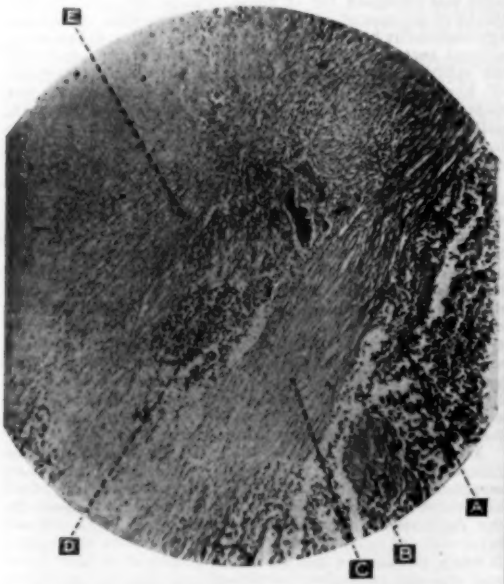
B. *Primary gland on the right side of the neck.*—The gland tissue is entirely replaced by a new growth which consists of a fibrous stroma in which exist large spaces blocked by epithelial cells. (Figs. 1 and 2.) Amidst the latter a few degenerate pearls are seen. The growth is an epithelioma in which the cells and nuclei are small and shrunken. Whole areas stain badly both as regards fibrous stroma and cancer cells. The fibrous stroma appears to be in excess and is involving the areas of new growth, causing degeneration of the cells. The gland section when examined fresh was much firmer than those from the other glands and was more cicatricial in character.

C. *Secondary gland on the right side of the neck.*—Gland

tissue and epithelial cells are intimately interspersed throughout portions of the section, whilst for the most part nothing but new malignant epithelial growth is seen. This is in part surrounded by thickened gland capsule. The cells and nuclei differ in no way as regards general features from those seen in the two preceding sections—A and B. This section shows other differences; there is not nearly so much fibrous tissue, the reaction to staining is more marked both as regards the fibrous stroma and the cancer cells, the latter are in larger groups and appear more active, and the blood vessels are more enlarged. The gland has evidently not undergone the same amount of cicatrisation as in section B; the thickening is more marked at the periphery of the growth and shows itself as a thickening of the gland capsule. Epithelial pearls are not so evident in this section.

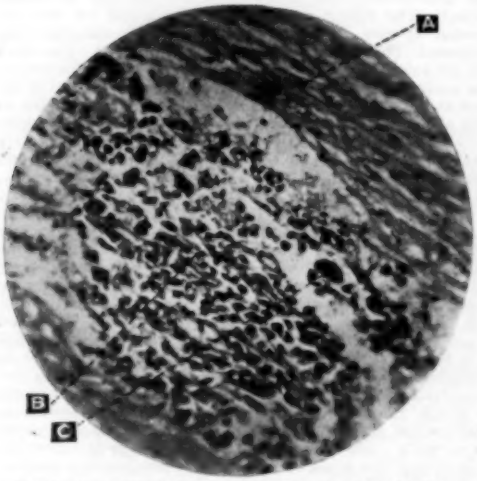
D. *Gland on the left side of the neck.*—This section shows

FIG. 1.



Section from the primary gland on the right side of the neck (magnified 50 diameters), showing several groups of new growth amidst connective tissue which has almost entirely replaced the original lymph gland tissue. The characteristic changes in this section are the large quantity of connective tissue with small-celled infiltration and the breaking up of the cancer masses by the connective tissue. Both the connective tissue and the cancer cells and nuclei stained faintly, showing a marked contrast in this respect to the section from gland D. A and D, New growth with small cell infiltration. B, Lymph gland tissue. C and E, Connective tissue replacing gland tissue.

FIG. 2.

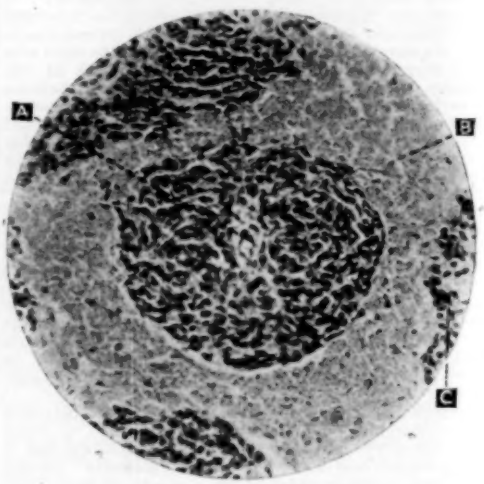


Section from the primary gland in the neck (magnified 150 diameters), showing a group of cancer cells in process of disintegration invaded by connective tissue and small cell infiltration. A, Connective tissue. B, Group of cancer cells and nuclei. C, Cancer cell with deeply stained nucleus.

FIG. 3.

Section from the gland from the left side of the neck (magnified 50 diameters), showing the gland tissue almost entirely replaced by new growth which stained deeply. A, Mass of new growth. B, Gland tissue.

FIG. 4.



Portion of the same section more highly magnified (magnified 150 diameters). A, Round-celled infiltration amidst new growth cells. B, Gland tissue showing commencing leucocyte infiltration. A and C, Groups of new growth.

columns of densely packed malignant epithelial cells. (Figs. 3 and 4.) Considerable free hæmorrhage has taken place into the growth. Epithelial pearls are well shown. In places the cells are very atypical, small, and shrunken, like those in sections A, B, and C.

E. *Section from secondary growth in the liver.*—This section shows liver tissue invaded by masses of malignant epithelial cells. There are areas of hæmorrhage throughout the section and groups of degenerated liver cells deeply pigmented—a condition of chronic venous congestion. The cancer cells are larger and stain more readily than in the other sections; they do not exhibit the shrinkage to the same extent as in the gland cancer cells.

A consideration of the progress of this case presents several points of interest. The disease was well established before treatment was undertaken. The patient had lost a considerable amount of weight in the early stages of the disease. He suffered pain in the neck which was relieved by the treatment. The primary growth in the tongue ceased to spread and the first glandular growth visibly diminished in size after he had had several weeks of treatment. He gained weight and was able to resume work. The histological condition of the parts examined shows that the rays had a direct and beneficial influence over the new growth in the tongue and glands. In all the cells were atypical, they were small and shrunken, and there was a considerable increase in the fibrous stroma in one of the glands. The one which had most of the treatment directly applied to it showed the most marked changes. It was more indurated than the others and the tissues did not stain equally. The condition of gland C indicated more malignancy than B; it appeared soon after treatment was stopped and presumably was not affected by the rays to the same extent. Evidently the action of the rays upon this gland did not appear to be inhibitory to the development of new growth. This is indicated by the appearance of glands C and D after treatment was discontinued. The gland removed from the left side of the neck showed much the same character as those from the right side. It was more vascular and there was free hæmorrhage in its substance. The fibrous element was not so evident and the cells stained more equally than in the preceding sections.

The great difficulty in the application of the x rays to diseases of deep-seated structures is the bar to their more frequent employment; the difficulty is one of technique. The danger of causing superficial lesions in an endeavour to reach a deep-seated structure is ever in one's mind. The beneficial effect of the x rays upon cancers of a superficial nature is quite proved by the statistics on the subject, and if the action occurs in these cases it would appear that if properly applied the result would be the same in the deeper structures. That some influence can be produced in deep-seated organs is, I think, proved by the histological changes recorded in the specimens examined from the patient; undoubtedly the disease was arrested in the growth on the tongue. The size of the growth when the patient died was little if any larger than when Mr. Low examined him at the hospital a year before his death, and up to the time of his death he did not have a symptom of distress from either that growth or from the enlarged glands on the neck.

It is probable that the new growth in the liver was already existent when the x ray treatment was commenced, so I do not think that it can be argued that the rays had any direct effect in producing metastasis to that organ. In many cases of cancer secondary growths occur very early in the course of the disease and they may be present for a considerable time before they give rise to pain or other symptom to indicate their presence in that organ.

EXPLANATION OF ILLUSTRATIONS.

Figs. 1 and 2 are from a section of the primary growth on the right side of the neck and Figs. 3 and 4 are from the gland on the left side of the neck. The changes in these two sections are sufficiently evident on comparison and do not call for special descriptions. Lack of space prevents me from illustrating the changes in the tongue growth, the second gland on the right side of the neck and in the liver, but the plates illustrate the histological changes which I wish to call attention to.

Highgate, N.

BOARDS OF GUARDIANS AND TUBERCULOSIS.—At a meeting of the Yeovil board of guardians held on June 15th it was decided, on the suggestion of the house committee, to communicate with the boards of adjoining districts with a view to action being taken to provide a sanatorium for pauper consumptives in the county of Somerset.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A RHINOCEPHALIC CYCLOPEAN MONSTER.

BY S. H. GREENE, L.S.A. LOND.

As a somewhat rare fœtal malformation the Cyclopean monster of which I append an illustration may be of interest. A few other cases have been reported, notably Craig's,[1] now in the museum of the Royal College of Surgeons of Edinburgh, which this in many points resembles. According to the classification of Geoffroy Saint Hilaire, this

The pedunculated proboscis is pinned up in order to show the united palpebral fissures and the lozenge-shaped central orbit. This unfortunately was not well shown in the original photograph. In the upright position of the child the proboscis hung down, covering the central orbit.

is the third or rhinocephalic grade of Cyclopean monster, in which the nose is represented by a proboscis inserted in the base of the forehead, beneath which is a single orbital cavity containing two orbits more or less intimately fused. Unlike Craig's case, this child, with the exception of the cyclocephalic malformation, was perfect, though, according to Hirst and Piersol,[2] other deformities of the head, face, or distant regions of the body, especially anencephalus and polydactylism, are frequently associated. The nose was represented by a pedunculated, cylindrical, somewhat pear-shaped body, about one inch in length, occluded but dimpled at the free extremity. In this it differs from other cases reported which have had one or more openings representing the nares at the free end. It contained a central cavity which communicated with a small foramen in the frontal bone. Below the proboscis was a small lozenge-shaped space, the lateral angles of which were continuous with the palpebral fissures. The eyelids were well formed and had two well-marked rows of eyelashes but were united. The floor of the space contained a single malformed orbit with a single optic nerve. The brain was very soft and it was difficult to trace the nerves but it differed from Craig's reported case, which had only one cerebral hemisphere with a single optic nerve that divided and passed to two laterally placed orbits, in having two hemispheres and one optic nerve which passed to a single, centrally situated orbit. This child, the sixth, was prematurely born at the eighth month, the birth being hastened by instruments in consequence of the collapsed condition of the mother, due to a severe flooding. The third stage of labour was normal and the mother made a slow but uninterrupted recovery.

Excess of liquor amnii is said to be associated with this condition and even to be the cause through pressure of the premature closing of the anterior cerebral vesicle, but as I was only called in on account of the flooding and the membranes had ruptured two days previously I am unable to speak as to the quantity in this case. An interesting,

[1] Edinburgh Medical Journal, 1886–87, vol. xxxii., pp. 193–197.
[2] Hirst and Piersol: Human Monstrosities.

though possibly only accidental, coincidence is the fact that the mother's second child, a boy, was born with only one arm.

North Kensington, W.

THREE CASES OF JAUNDICE OCCURRING IN PERSONS SUFFERING FROM EXOPHTHALMIC GOITRE.

BY M. D. EDER, M.R.C.S. ENG., L.R.C.P. LOND.

THE three cases were seen in 1903 and 1904 but were not consecutive cases of exophthalmic goitre. I relate them on account of the interest attaching to the jaundice with which they were associated. I suppose this is sufficiently rare since it is not mentioned in the text-books most current in England; it is, however, noted by Professor Dieulafoy in his "Pathologie Interne" (1901). It is unnecessary to give more than the salient points.

CASE 1.—The patient, a woman, aged 38 years, in good circumstances, had suffered from exophthalmic goitre for three years. She came under my notice in January, 1904, for jaundice. Palpitation was extreme. There was no cardiac enlargement. The pulse-rate was from 120 to 150. The temperature was normal throughout. There was no abdominal pain; the stools were clay coloured. There was constipation. Bile was found in the urine. No gall-stones were passed at any time. A diagnosis of simple catarrhal jaundice was made. The jaundice disappeared in six weeks. I heard quite recently that there had been no recurrence and that otherwise the patient's condition was unchanged.

CASE 2.—This patient was a man who was first seen by me in April, 1904, for a rapidly enlarging thyroid gland. The cardiac symptoms were severe. Palpitation was extreme. I believed at times that I could make out some enlargement of the heart and on other occasions I was persuaded that there was none. The pulse was irregular in force and rhythm and was frequently uncountable. Some improvement ensued after some weeks' intermittent rest in bed—intermittent because the patient could not be persuaded to remain there. Whilst under treatment jaundice occurred. Bile was found in the urine and the stools were clay coloured. Diarrhœa with offensive stools was present. This symptom improved under treatment with benzo-naphthol and small doses of calomel. The cardiac symptoms remained unaltered. The diagnosis was catarrhal jaundice. From this condition recovery followed in from four to five weeks. This patient was subsequently treated at a London hospital with injections into the gland (presumably iodoform emulsion). I saw him after his discharge. The gland was much harder but there was no abatement of his sufferings.

CASE 3.—The patient, a woman, was seen in October, 1904, for jaundice. The exophthalmic goitre was of ten years' duration. The apex beat of the heart was in the fifth space outside the nipple line; there was a systolic murmur at the apex conducted to the axilla. There were no other cardiac signs. The pulse was 80 and regular in force and rhythm. There had been no colic but there was tenderness in the right hypogastric and in the epigastric regions. There was bile in the urine. The stools were clay coloured. I did not see the patient very constantly but was informed that she passed several gall-stones some three weeks later, the jaundice quite disappearing shortly afterwards. I again saw her at Christmas, 1905. There had been no recurrence of the jaundice. The cardiac condition was unchanged; there was no palpitation. The pulse was regular. The ocular and nervous symptoms of Graves's disease were well marked. Besides the gall-stones there were two interesting features in the case. 1. The patient carried on an arduous midwifery practice; indeed, I believe the disease was already present when she commenced her studies. 2. The *absence* of palpitation with the *presence* of a murmur and alteration in the position of the apex beat. There was no good evidence of a mitral lesion.

At the time I regarded the presence of jaundice in these cases as purely fortuitous. If, however, as has been suggested, exophthalmic goitre be due to some toxic condition with its seat of action in the pituitary body, the origin of the toxin may be found in the alimentary system. Common symptoms, possibly of similar origin, are glycosuria, diarrhœa, vomiting, and indigestion, whilst the Addisonian pigmentation, when present, is usually most marked in the skin of the abdomen. On this assumption the jaundice in these three cases arising from some chronic toxæmia in the intestines would have a cause in common with that of the exophthalmic goitre.

Charlotte-street, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF PSEUDO-RENAL DROPSY IN A CHILD.

(Under the care of Dr. SAMUEL WEST.)

A MALE child, aged 20 months, was admitted into St. Bartholomew's Hospital with considerable anasarca. The appearance of the face and other parts of the body was so typical that examination of the urine was thought unnecessary but when it was examined on the day after admission no trace of albumin was found. Heat, acetic acid and ferrocyanide of potassium, citric acid, and some other tests alike gave negative results. The œdema was considerable and involved the whole body. The abdomen was distended but tympanitic and free from fluid. The liver was enlarged and reached one inch below the ribs in the right nipple line; the spleen could not be felt. All the other organs seemed healthy. The child was very pale and feeble. The history obtained was that the child had been in good health till a severe attack of measles a month previously, which had been followed by frequent and severe diarrhœa. This had made the child very weak. Ten days before admission the swelling of the face and body developed and rapidly reached a considerable degree. The child presented no other symptoms, had no diarrhœa after admission, took his milk well, and rapidly improved. The only medicine given was a diuretic and bath. In a week the œdema had completely disappeared from the legs and body and in a few days more from the face. It is interesting to note that it vanished from the face last. The blood was examined and showed a small leucocytosis due to a slight increase of lymphocytes, but the red blood cells numbered 4,000,000 per cubic millimetre so that there was no special anæmia.

Remarks by Dr. WEST.—This is an instance of a condition not altogether rare yet one which has in some way escaped the notice in books which its interest entitles it to. Little babies may not infrequently develop œdema when in a condition of profound cachexia. The œdema then is usually not of this type but such as is met with both in adults and children when anæmic. It is an œdema of what may be called the cardiac type, being most marked in the dependent parts of the body, the legs when up and in the buttocks and back when in bed. This kind of œdema is of serious prognosis, for it only develops in cases of profound cachexia which may be incurable and then the case ends fatally. If, however, the cachexia be cured the œdema will disappear.

The type of œdema described in the present case is entirely different and may be directly comparable with that met with in acute nephritis, which it exactly resembles in appearance and distribution. That it is not renal in origin is proved by the clinical history and course of the case and by the fact that in fatal cases the kidneys have been carefully examined and found to be free from all signs of inflammation. The cases occur only in babies and young children in association with extreme malnutrition or anæmia. I do not know of any quite similar condition in the adult. It may develop very rapidly and in a few days becomes extreme. The dropsy may involve the serous cavities as well but only in the worst cases. The urine is generally free from albumin of any kind or if it contains any it is a mere trace and rapidly disappears. The œdema sometimes after disappearing may return and then again disappear as the child convalesces.

The case reported has another point of special interest in

the fact that the œdema was the consequence of a severe attack of measles in a previously healthy child and was due to the malnutrition produced by severe diarrhœa which developed as a sequel and which was sufficient to produce the condition after only three weeks' illness.

The treatment is general and symptomatic, but of special drugs digitalis seems the best. The pathology of the condition is not any better known than is that of renal œdema, but I suppose admits of the same explanation—viz., a weakening of the capillary walls so that they permit the transudation of serum into the subcutaneous tissue, but this does not satisfactorily account for the fact that in most cases it is the subcutaneous tissue only that is affected.

The only book in which I have found this condition thought worthy of separate treatment is that of Holt. Henoch refers to a case of the kind and Pilatow describes a case of "anasarque sans albuminurie" in a boy, five years of age. This also followed troublesome diarrhœa and anasarca developed rapidly, but recovery was complete in three weeks. Eustace Smith refers to dropsy without albuminuria, as do the few writers who mention it at all, under the heading of nephritis. I have seen several instances similar to that described and did not realise until I looked up the literature of the subject that so little was written about it.

ROYAL DEVON AND EXETER HOSPITAL.

A CASE OF ACUTE LYMPHATIC LEUKÆMIA.

(Under the care of Dr. W. GORDON.)

FOR the notes of the case we are indebted to Dr. R. V. Solly, pathologist to the hospital.

The patient, a female, aged 13 years, an Italian, was seen by Dr. W. Gordon on March 9th, 1906, in consultation with Dr. J. A. W. Pereira of Exeter. She was then complaining of considerable pain in her left side (splenic region) and in the calves of both legs. The pain in the left side began on March 2nd and the pains in the legs three days later. Previously to the 2nd she had been quite well. She had been menstruating since the 5th and most excessively. She looked very anæmic and ill. Her gums were somewhat swollen and had bled a little but there was no ulceration or sign of septic stomatitis. The spleen was enlarged and acutely tender. The calves of the legs were also very tender. There were enlarged and tender glands on both sides of the neck, in both axillæ, and in the groins, some of those in the neck being as large as a small hazel-nut. Her temperature was 102° F. The microscope showed a very remarkable increase of white corpuscles and a stained film showed these to be almost wholly lymphocytes. She was admitted into the Royal Devon and Exeter Hospital on March 10th.

On admission the patient's state was found to be as above. The tongue was dry, rather coated with brownish fur; the gums were pale but were not bleeding. The spleen projected three and a half inches below the ribs and was three and a half inches broad just below the edge of the ribs. It was acutely tender. Liver dulness began at the sixth rib in the mammary line, and measured five and a quarter inches vertically. Its edge was tender. There was also a good deal of tenderness over the ribs in front of the chest and over the calves of the legs. The heart's apex beat was situated in the fifth space, almost a quarter of an inch external to the left mammary line. There was a reduplicated first sound but no bruits were present (position recumbent). No optic neuritis was present.

A blood count by Dr. Solly on March 11th gave the following result: hæmoglobin, 60 per cent.; red corpuscles, 2,912,000 per cubic millimetre; white corpuscles, 796,000 per cubic millimetre; colour index, about 1. Differential count of leucocytes: polymorphonuclear, 1·6 per cent., or 12,736 per cubic millimetre; small lymphocytes, 11 per cent., or 87,560 per cubic millimetre; large lymphocytes, 86 per cent., or 684,560 per cubic millimetre; and large mononuclears, 1·4 per cent., or 11,144 per cubic millimetre (large hyaline). No eosinophiles were seen. There were a very few normoblasts present. No mast cells were seen. The small lymphocytes were like those in normal blood, with very little protoplasm, the nucleus being large and taking the basic stain very deeply. The large lymphocytes were of about the size of a polymorphonuclear as a rule, but some were a little larger and others rather smaller. They consisted of a very large nucleus, taking the basic stain less strongly than the small lymphocytes, and around this nucleus generally a ragged narrow rim of protoplasm, more deeply basophile than the nucleus, but in others it was impossible to differentiate any protoplasm around the nucleus. The large mononuclears were like those found in normal blood and consisted of a rather faintly staining nucleus, round or kidney shaped, and abundant clear non-granular protoplasm. The stain employed was Leishman's. On March 12th a second blood count was made by another observer who found: red corpuscles, 2,368,000 per cubic millimetre; and white corpuscles, 848,000 per cubic millimetre.

The treatment employed was increasing doses of arsenic and the application of the x rays daily for ten minutes over the spleen. On March 11th slight epistaxis occurred, the menstrual period continuing. On the 13th the spleen was found to be only two and a half inches below the ribs and measured only three inches across, the liver dulness remaining the same. Both kidneys were easily felt, seeming to be somewhat enlarged. There was slight albuminuria. The patient was now free from pain and appeared generally better. The tonsils were noted to be much enlarged. On the 15th she was in a very excitable state, continually whining, although she said she was in no pain. The period still continued and there was bleeding from the gums. From this point she gradually became worse and died comatose on the 16th, the whole duration of her illness only being 14 days.

Necropsy.—At the post-mortem examination (which took place 17 hours after death) the body was found to be very anæmic but not emaciated. On opening the thorax the thymus was seen to be persistent. It was about three and a half inches long and one inch broad. On the surface of the heart were petechiæ and the muscle was very pale. The clots in the cavities of the heart were of a greyish-purple colour. The valves were normal. The lungs were pale but crepitant. The spleen weighed 26 ounces; it was rather soft and ecchymosed at its upper part. The liver weighed 3 pounds 2 ounces and was rather pale, fatty, and soft. Both kidneys were very pale. There were many nodules of about the size of a pea, of a pale yellow colour, scattered through the substance of both kidneys. There was no enlargement of the solitary or agminated intestinal glands. The uterus was normal but contained clot. The bronchial and mediastinal lymphatic glands were enlarged, soft, and hæmorrhagic and the glands in the neck and lumbar region were also enlarged. There was a large hæmorrhage situated in the white substance of the right frontal lobe of the brain and a smaller one in the white substance of the left parietal lobe. These hæmorrhages were evidently the immediate cause of death. The bone marrow of the femur was red and hæmorrhagic.

Histological examination of organs.—The bone marrow consisted almost entirely of large and small lymphocytes. A few myelocytes were seen, a fair number of normoblasts, and a few giant cells. As regards the kidney a section through the white nodules gave an extraordinary appearance. There was an enormous infiltration of lymphocytes, closely crowded together, and among them were seen remnants of the urinary tubules with the protoplasm of the cells, granular and much swollen. The glomeruli exhibited many lymphocytes in their substance, but it was difficult to say whether these were infiltrations or simply within the vessels. The liver cells were granular and separated from one another by lymphocytes. In parts were seen small accumulations which were evidently infiltrations similar, though of microscopical size, to those in the kidneys. The Malpighian corpuscles of the spleen were difficult to define as the whole pulp was densely infiltrated with lymphocytes. The lymphatic glands were not markedly altered from normal. The thymus and the tonsils both consisted of a network packed with lymphocytes. The lymphocytes in all these organs were mostly rather small and stained deeply and consisted apparently entirely of nucleus with no demonstrable protoplasm, but there were also present larger cells with a small amount of protoplasm round the nucleus, both protoplasm and nucleus taking the basic stain.

Remarks by Dr. GORDON and Dr. SOLLY.—The interest of the case depends in the first place on its extremely rapid course, rapid even for this disease, its entire duration, so far as can be reasonably determined, being only 14 days. In the next place a definite though very brief improvement took place under x ray treatment. Byrom Bramwell [1] has reported a case of lymphatic leukæmia treated by the x rays where there was a fall from 300,000 leucocytes per cubic millimetre to 80,000. In spite

[1] Edinburgh Medico-Chirurgical Society, THE LANCET, May 20th 1905, p. 1340.

of this there was no general improvement and a distinct inflammatory reaction took place over the spleen. In splenomedullary leukæmia, however, great improvement has taken place under this treatment, both as regards the general state of the patient and also the blood and condition. The red cells and the hæmoglobin both increase and the white cells fall both as regards number and percentage of myelocytes. The spleen also shows marked shrinking in size. C. Melland,[2] W. Ironside Bruce,[3] and W. B. Ransom,[4] have all reported cases where this occurred and J. C. G. Ledingham[5] reports the same change but sounds a warning note as regards the danger of x-ray treatment, quoting Halber and Linser, who were able by prolonged application of the x rays to small animals completely to deplete the blood of leucocytes, the lymphoid cells being affected first.

The number of leucocytes, over 800,000, was certainly enormous but cases of acute lymphatic leukæmia have been reported where the number of leucocytes present have been 918,000 (R. C. Larabee[6]), 920,000 (Mitchell Stevens[7]), and 1,300,000 (J. G. Slade[8]). In this case the lymphatic glands, though enlarged, were not markedly changed and the main change had taken place in the kidneys which were studded with lymphoid nodules; in the spleen, where the pulp was hardly distinguishable from the Malpighian corpuscles; and in the bone marrow which consisted mainly of lymphoid tissue. This is interesting in the light of C. Melland's[9] paper contributing to the discussion on the rôle of the lymphocyte at the annual meeting of the British Medical Association in 1904, where he expresses the opinion that the large lymphocytes in the blood of acute lymphatic leukæmia are not true lymphocytes but retrograde myelocytes and a return to a more primitive and less differentiated form of cell and that both spleno-medullary and lymphatic leukæmia are myelogenous. D. G. Hall and F. G. Bushnell,[10] in an account they gave at the Pathological Society of a case of acute lymphocythæmia and a case of myeloid splenic anæmia, stated "that there was evidence that leucocytes and erythrocytes had a common ancestor in lymphoid cells, from which cell there was no doubt both granular and non-granular leucocytes were derived in the fœtus. In the polymorphism of leucocytes of myelocythæmia might be seen the confirmation of this common origin of leucocytes, for all transitions existed between myelocytes, large lymphocytes, and polymorphonuclears in this disease." Cases of mixed cell leukæmia pointed in the same direction.

C. Melland in the paper quoted above gives photomicrographs of large lymphocytes, with a definite rim of protoplasm, just like those in our case, and also describes other large lymphocytes where a margin of neutrophile granules can be seen. There can be no doubt that these large lymphocytes which generally but not always predominate in cases of acute leukæmia are not normal constituents of the blood. Their fragility and peculiar morphological characters and staining reactions absolutely separate them from the large mononuclears of normal blood.

A. G. Phear[11] has reported a case of acute leukæmia where there were 19 per cent. of normal corpuscles and 81 per cent. of these large lymphocytes not normally found in the blood (327,000 per cubic millimetre). He also gives a very complete account of the histolgy of the affected organs (the liver, the spleen, the lymph glands, the tonsils, and the solitary glands of the large intestine) with excellent illustrations where the same large cells were seen. In his case, as in most cases of acute leukæmia, including ours, the thymus was persistent.

In Phear's case and in four cases reported by Rose Bradford and Batty Shaw in 1898[12] there were distinct ulceration of the gums and stomatitis, and Thomas McCrae[13] in reporting five cases of acute leukæmia states that in two of them there was distinct tonsillitis and that in one case streptococci, and in the other streptococci and staphylococci, were isolated from the blood. These cases are certainly so acute that they have all the appearance of an acute septic infection.

[2] Brit. Med. Jour., July 1st, 1905.
[3] THE LANCET, Jan. 27th, 1906, p. 211.
[4] Nottingham Medico-Chirurgical Society, THE LANCET, Feb. 17th, 1906.
[5] THE LANCET, Feb. 10th, 1906, p. 366.
[6] Boston Medical and Surgical Journal, THE LANCET, April 1st, 1905, p. 873.
[7] THE LANCET, Jan. 21st, 1905, p. 153.
[8] Clinical Society, THE LANCET, March 4th, 1905, p. 572.
[9] Brit. Med. Jour., September, 1904.
[10] Pathological Society, THE LANCET, Feb. 24th, 1906, p. 518.
[11] Transactions of the Royal Medical and Chirurgical Society, 1901.
[12] Transactions of the Royal Medical and Chirurgical Society, 1898.
[13] Brit. Med. Jour., Feb. 25th, 1905.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Mitral Stenosis and Pregnancy.

A MEETING of this society was held on June 12th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. HERBERT S. FRENCH and Mr. H. T. HICKS communicated a paper on Mitral Stenosis and Pregnancy. They considered that the dangers of pregnancy in cases of mitral stenosis have been over-stated and attributed the over-statement to the fact that previous statistics had been based mainly upon cases of mitral stenosis which had come under observation because heart failure had developed during, or soon after, pregnancy. Statistics so obtained tended to leave out of count all those subjects of mitral stenosis who go through pregnancy without developing cardiac symptoms. They had endeavoured to obviate this source of error by analysing the obstetric histories of 300 women over 20 years of age who had mitral stenosis with or without other valvular lesions. The cases had not been selected but were consecutive in the records of Guy's Hospital. As a result of their study of these cases they concluded:—"1. That comparatively few are sterile. 2. That the majority bear children well. 3. That when heart failure develops in relation to pregnancy it is very often not with the first pregnancy but after several. 4. That the treatment should be the same as for non-pregnant cases of mitral stenosis. 5. That it is not just absolutely to negative marriage in all women with mitral stenosis. The dogmatic 'No' of Jellett and of Porak is unjustifiable. It is right that the physician should make clear to the engaged couple or to their near relatives the risk run. He should distinguish between one case and another. The risk should not be minimised but it should not be exaggerated. Whether the woman marry or not, it is likely that she will not reach old age; but if she has survived 20 with good cardiac compensation the likelihood that pregnancy will accelerate the time of heart failure does not seem to be so great as is stated in the most recent text-books."

Sir DYCE DUCKWORTH said that he had been in the habit of declaring that it was unwise for women with mitral stenosis to marry and, although the statistics brought forward by Dr. French and Mr. Hicks tended to show that the risk was not so great as had generally been accepted, he did not feel inclined to alter his practice. He referred to the tendency of rheumatic subjects to propagate their proclivity towards the disease.

Dr. G. E. HERMAN thought that the risk encountered in marriage and pregnancy had been much exaggerated but that there was a distinct liability to cardiac failure during the last two months of pregnancy. Induction of labour was useful in such cases.

Mr. J. T. GARDNER said that he had been in the habit of regarding mitral stenosis in its relation to pregnancy as by no means a serious matter. With regard to the question of sterility statistics had been vitiated by the avoidance of pregnancy on the grounds that it was likely to prove dangerous to life.

Dr. C. C. GIBBES agreed in thinking that the danger of pregnancy to subjects of mitral stenosis had been over-estimated. He had seen the occurrence of pregnancy help in promoting cardiac compensation.

Dr. F. J. POYNTON gave statistics showing the greater frequency of rheumatism and of mitral stenosis in females as compared with males and explained how the mortality amongst the males was greater both during childhood and adult life. He considered that pregnancy rendered a woman subject to virulent forms of endocarditis and to severe attacks of chorea. The same tendency was observed in the inoculation of animals in a pregnant condition.

Dr. W. F. V. BONNEY referred to three cases of malignant endocarditis occurring as the result of puerperal sepsis in which the organism concerned was the ordinary streptococcus pyogenes.

Dr. W. S. A. GRIFFITH was disinclined to underrate the

danger of mitral stenosis in pregnancy and said that a considerable number of cases died during the puerperium. Out of 28 cases of marked cardiac disease associated with pregnancy three died during, or soon after, confinement.

OBSTETRICAL SOCIETY OF LONDON.

A Case showing (a) Uterine Contraction without Retraction and (b) Prolonged High Temperature of Nervous Origin.—Glycosuria in Pregnancy.—Exhibition of Specimens.

A MEETING of this society was held on June 6th, Dr. W. R. DAKIN, the President, being in the chair.

Dr. G. E. HERMAN read a paper on a case showing (*a*) Uterine Contraction without Retraction and (*b*) Prolonged High Temperature of Nervous Origin. He related a case of premature labour in which the advance of the child was arrested for more than 24 hours, although the uterus was regularly contracting, the passages were fully dilated, the child was small, and the pelvis was of ample size, the cause of the arrest being, in Dr. Herman's judgment, absence of uterine retraction. He thought the case important as exemplifying the difference between contraction and retraction of the uterus. Delivery was followed by high temperature lasting more than a fortnight, without physical signs of disease, without emaciation or enfeeblement, and therefore, he believed, entirely of nervous origin. As such prolonged high temperature of nervous origin was rare Dr. Herman had collected and quoted some similar cases recorded by others.—Dr. O. WILLIAMSON found himself unable to accept Dr. Herman's explanation of the delay in delivery. Dr. Herman had asserted that retraction was absent, but this statement took the form of an *ex cathedrâ* statement and rested upon no scientific proof. He criticised the definitions of uterine retraction that were given by Galabin, Dakin, and Pajot, and concluded that they were unsatisfactory. He considered that even during the first stage of labour contraction and retraction went hand in hand and he thought that this was shown by a study of frozen sections made on bodies of women dying in the first stage of labour. He believed retraction to be essential for the dilatation of the cervix. If this view were correct Dr. Herman was not justified in describing this as a case in which retraction was absent. The mere fact that the cervix was fully dilated was proof that retraction had occurred.—Dr. LEWERS said he did not think that Dr. Herman had made out his contention that the temperature in the case was of nervous origin. Here was a puerperal case in which there were repeated rigors and high temperature for a considerable period. The labour had not been uncomplicated, as the placenta had had to be removed by the hand. It had to be remembered that it was not always possible to make the hands absolutely sterile. In his opinion a case presenting the clinical features described was one of uterine phlebitis. He had been taught many years ago to recognise such cases by his old teacher, Sir John Williams, and had seen several such cases in consultation subsequently. The characteristic points were absence of physical signs, continued high temperature, and rigors. In some of these cases the diagnosis was subsequently confirmed by the phlebitis spreading to the main vein and causing swelling of the corresponding leg. Many of the patients were in very good condition between the rigors, not feeling very ill and with a fairly good appetite. A fair proportion of these cases recovered completely.—Dr. GRIFFITH agreed with Dr. Williamson in his remarks in regard to Dr. Herman's paper. Dr. Griffith had taught for some years that retraction was a function of all living muscles whereby a long muscle was enabled to adapt itself to its required length after contraction or elongation, and a hollow muscle to its contents by a state of gentle contraction with a minimum of muscle fatigue, ready for further contraction or expansion. He was of opinion that the delay in the birth of the child reported by Dr. Herman was rather due to the absence of efficient contraction than to the absence of retraction as suggested by him.—Dr. P. HORROCKS said that in the *Journal of Obstetrics and Gynæcology of the British Empire* for January, 1902, he had gone fully into the question of retraction of the uterus and had there defined it as "contraction followed by relaxation (that is, the passing off of the active contraction) but not by extension." In that paper and elsewhere he had shown that all muscles in the body had opponents which were themselves mostly, though not always, also muscles. For example, the biceps had as its opponent the triceps. Moreover, as far as he knew, no muscular fibre in the body, whether voluntary or involuntary, striped or unstriped, was capable after shortening by contraction of lengthening itself again to the former state. This had to be done by an opponent. Now during pregnancy the uterus contracted without the woman being aware of it, as these contractions were painless. During such a contraction the pressure within the amnion was increased, and when the active contraction passed off this increased pressure was brought into play to extend the uterine wall to its former state. It played the rôle of an opponent and there was no retraction. In labour, however, the membranes began to open up the cervical canal and each uterine contraction was followed by imperfect extension and so by slight thickening (retraction).—Dr. AMAND J. M. ROUTH asked whether the caput succedaneum had been present and whether a retraction (Bandl's) ring had been observed during version. He gave instances of cases where rigors and hyperpyrexia had occurred without obvious cause, some no doubt of nervous origin but others due to uterine phlebitis.—Dr. R. BOXALL said that he considered retraction was at least nearly related to tone. He could quite believe it possible that in some circumstances retraction might be absent when contractions were taking place. He had observed that in cases where the uterus was firmly retracted immediately after the completion of labour, 12 or 24 hours later the uterus was less firm and more bulky, showing that contraction was not persistent. He had seen several cases of acute septic infection in which the stress of the poison fell mainly on the blood-vascular system without local manifestations in which the patients complained of little or nothing.—Dr. HERMAN replied.

Dr. W. H. B. BROOK (Lincoln) read a short communication on three cases of Glycosuria in Pregnancy. In the first case 2½ per cent. of glucose and a small amount of lactose were found in the urine at the fifth month of the second pregnancy. In the other two cases ten grains of sugar to the ounce and 12 grains of sugar to the ounce were found in the urine respectively at the sixth month. The second case was that of a woman pregnant for the first time and the third case was that of a woman pregnant for the third time. The patients all went to full term and the sugar persisted in the urine up to the time of confinement. In all three cases, after the puerperium, the sugar disappeared from the urine. All these patients were put on an anti-diabetic diet and as regards medicinal treatment, aspirin, salicylate of soda, codeia, with an occasional dose of pilula hydrargyri, were the drugs employed. Dr. Brook referred to a paper that was read before the society in 1882 by Dr. Matthews Duncan.—Dr. F. H. CHAMPNEYS said that diabetes in pregnancy was different from the slight glycosuria which had been called "resorption diabetes," which was due to re-absorption of sugar of milk from the breasts. Diabetes in pregnancy sometimes ran a perfectly harmless course and sometimes was rapidly fatal. The difficulty really lay in the prognosis and he knew of no satisfactory method of formulating one at present.—Dr. J. S. FAIRBAIRN referred to a case which he had seen lately in a patient six and a half months pregnant. Sugar was proved to be glucose, and not lactose, by the phenyl-hydrazine and fermentation tests and by the polarimeter. The amount of the urine was not increased and the specific gravity was only slightly raised. He quite agreed that this slight glycosuria in pregnant women was something quite distinct from true diabetes. The small amount of glucose passed and the absence of the other symptoms of diabetes put cases of this kind into an entirely different category.—Dr. GRIFFITH referred to a case of diabetes which he had had an opportunity of watching for some years. The patient became pregnant two years ago and passed through her pregnancy and labour without any evidence of danger. He considered that this case was intermediate between the cases of temporary glycosuria reported by Dr. Brook and the very serious cases reported by Dr. Matthews Duncan.—Dr. BROOK replied.

The following specimens were exhibited:—

Mr. H. T. HICKS showed a specimen of Primary Carcinoma of the Body of the Uterus, with secondary growths in both ovaries.

Dr. R. HAMILTON BELL read the after-history of a case of Fibro-myoma undergoing degeneration.

Mr. DOUGLAS DREW showed a specimen of Cancer of the Uterus associated with pregnancy which he had removed by abdominal panhysterectomy.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The quarterly general meeting of this association was held on May 31st at the Medical Society's Rooms, 11, Chandos-street, London, W., under the presidency of Dr. T. Outterson Wood.—The President made a sympathetic reference to the serious illness, following upon deep domestic affliction, of Dr. Oscar T. Woods, medical superintendent of the Cork Asylum and a former president of the association. He proposed a motion of sympathy, which was seconded by Dr. Whitcombe and carried, and the honorary secretary was requested to convey that expression to Dr. Woods.—Dr. W. R. Dawson (Finglas, Ireland) called attention to the serious effects upon lunacy administration in Ireland produced by the "Public Bodies Order" of the Local Government Board, one result of which was to place the medical officer in a subsidiary position to that of lay officers, thereby interfering with the proper administration of institutions for the insane. Many of the Irish asylums fell in with the new order of things early but the Richmond Asylum held out, and in order to meet its opposition the Local Government Board made certain concessions. Dr. Dawson showed that the matter was not a personal one but affected the position of every resident medical superintendent and therefore the efficient administration of lunacy in Ireland.—The President, Mr. H. F. Hayes Newington, Dr. D. Yellowlees, Dr. T. Drapes, Dr. Soutar, Dr. Bower, Dr. Whitcombe, and Dr. G. E. Shuttleworth supported Dr. Dawson's remarks, the last of these gentlemen giving a specific instance in which lay control had worked unsatisfactorily. The following propositions were unanimously passed :—

The Medico-Psychological Association of Great Britain and Ireland, having learned through reports in the public press of a movement in Ireland tending to lessen the authority of the resident medical officers of asylums, desires to express in the strongest manner its conviction that any such change would certainly result in injury to the patients and would be in direct opposition to all progressive and enlightened treatment of the insane.

That the resolution be delivered into the hands of the Right Hon. James Bryce, Chief Secretary to Ireland, the manner of such delivery being left to the discretion of the President of the association.

Dr. John Turner read a paper entitled "The Relation of Epilepsy to Changes in the Blood and Central Nervous System." He predicated that epilepsy was the result of a double cause or tendency, the one an inherently defective nervous system from a hereditarily vicious organisation and the other some morbid condition of the blood whereby it showed a special tendency to intravascular clotting and that the immediate cause of the fits was sudden stasis of the blood stream resulting from the blocking of cerebral vessels by these intravascular clots. The fits he regarded as only a symptom of the general epileptic condition. Further investigations were related as to the coagulability of the blood in epileptics which was shown to increase at the times of petit mal, grand mal, and stasis. Forms of changes in the nerve cells were shown resembling those described as *réaction à distance*, and persistence of large numbers of subcortical nerve cells was shown. Dr. Turner also referred to experimental work by ligature of the cerebral arteries in the dog with acute forms of cell changes. The blood was shown to have a large number of blood plates and specimens were exhibited of different forms of intravascular clotting, probably in a large measure derived from amalgamation of the blood plates. Small cortical hæmorrhages were also described and shown on the screen which could be traced to rupture of a vessel blocked by the clots of coagulated blood referred to.—Dr. E. Goodall, in discussing the paper, said that he was not clear as to the connexion which existed between the obliterations in the vessels and the fits in the case of epileptics. Thrombi occurred in general paralytics and in other toxic states as well as in epilepsy and he did not believe that there was any definite evidence of the presence of toxins in the blood of epileptics. He had found that leucocytosis was especially common where there was either an exogenous or endogenous toxin, such as in acute delirious conditions and melancholia of the acute type but not so much in delusional insanity or hypochondriacal states. He desired to know whether the clots could be associated with the presence of a toxin.—Dr. Steen asked whether the change in the cornu Ammonis was patent to the naked eye or detectable only under the microscope.—Dr. Robert Jones said that Dr. Turner appeared to suggest that the epileptic brain was somewhat analogous to the anæmic brain, which (as shown by Leonard Hill's experiments) appeared to be exceedingly irritable and liable to cause convulsive movements upon very slight stimulation.—Dr. Fletcher Beach expressed his pleasure at finding that the results of the careful scientific work of Dr. Turner accorded with the conclusions which he had himself arrived at many years ago in the case of epileptic idiots.—Dr. Turner, in his reply, said that the changes were patent to the naked eye. He insisted that there must be a coöperation of two factors—the cells must be in a fit condition and there must be an exciting cause.—Dr. W. C. Sullivan afterwards read a paper on Industrial Alcoholism. He divided the several industries into groups and characterised their various tendencies and habits as to alcoholic indulgence. He dealt with the difference between convivial drinking and "misery" drinking, the latter being greatly influenced by bad industrial circumstances and leading directly to fatal chronic intoxication. In the prosperous mining districts of this country there was considerable drunkenness but comparatively little chronic alcoholism. He pointed out that industrial alcoholism could only be controlled by raising the standard of living and restraining facilities for obtaining alcohol during working hours and he suggested that this would be more powerful for good than educational influences.—Mr. Newington referred to Dr. Sullivan's previous contribution on the same subject and Mr. W. Bevan Lewis's work in a like direction. He drew particular attention to the recent discussions regarding the manufacture of whisky and particularly to the character of inebriation manifested by monkeys fed with certain alcohols on the one hand as compared with those of a monkey fed on what was termed patent-still whisky on the other. It was most essential that in discussing alcoholism there should be a full realisation of what was underneath that term. He hoped that there would be set up some standard in regard to alcoholic drinks and that people who departed from that standard would be prosecuted.—Mr. J. Carswell (Glasgow) strongly supported the conclusions arrived at by Dr. Sullivan, based upon an experiance which was very extensive, and laid especial stress upon the baneful effects of the early opening of public-houses which was one of the most striking points in the paper.—Dr. Jones remarked that the question of alcohol appeared to be very much that of the *locus resistentiæ minoris*, insomuch that the mental effects were seen in asylums and the physical in hospitals, hospital patients presenting marked cirrhosis of glandular structures which was rarely seen in asylum patients, the mental results of alcohol being probably the result of a previous psychopathic taint. It was interesting to note that when physical conditions such as peripheral neuritis occurred they mostly arose in women. Those admitted into Claybury Asylum formed, directly or indirectly, almost 30 per cent. of the total admissions.—Dr. Sullivan replied, drawing attention to the brisk trade carried on by the publicans during the breakfast hour in industrial districts.

INCORPORATED MEDICAL PRACTITIONERS' ASSOCIATION.—The annual meeting of the members of this association was held at the Trocadéro Restaurant on June 14th when Dr. A. Percy Allan of Croydon was elected President for the ensuing 12 months. After the meeting the members and friends dined together, Dr. Allan being in the chair. He announced, in reply to the toast "Success to the Association," that the council had resolved, in regard to the forthcoming election of Direct Representatives on the General Medical Council, to recommend the members to support the candidature of Mr. George Brown, one of the present representatives, and Mr. Joseph Smith, President of the Association of Members of the Royal College of Surgeons of England, who was a candidate at the last election. In the course of the evening the retiring president, Mr. A. Rivers-Willson, presented a testimonial to Mr. G. Brown, consisting of an illuminated address and a cheque in recognition of his services to the association as honorary secretary and editor of the official journal. The address was as follows :—

This address is presented to Mr. Geo. Brown, M.R.C.S. Eng., L.S.A. Lond., member of the General Medical Council of Medical Education and Registration, on his retirement from the post of editor of the official journal of the association—the *General Practitioner*. It was deemed a fitting opportunity by the members of the association of which he was the founder and also honorary secretary. He has done much to obtain for general practitioners that recognition of their just rights and claims to which they are entitled. The subscribers and friends hope that he may be long spared to devote his energy to the maintenance of those principles he has so ably advocated for the last 40 years and that he may see his efforts crowned with success.

Signed on behalf of the Committee.

A. RIVERS-WILLSON, President.

J. POLLOCK SIMPSON, M.D., Secretary.

Reviews and Notices of Books.

A Treatise on Diagnostic Methods of Examination. By Professor HERMANN SAHLI, Director of the Medical Clinic, University of Berne. Edited, with additions, by FRANCIS P. KINNICUTT, M.D., Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York; and N. BOWDITCH POTTER, M.D., Visiting Physician to the City Hospital and to the French Hospital, New York. London and Philadelphia: W. B. Saunders and Co. 1905. Pp. 1006. Price 27*s.* 6*d.*

THE first edition of Professor Sahli's treatise, "Clinical Methods of Investigation," was published in 1894 and was recognised as a most excellent work on the subject of clinical diagnosis. A second edition appeared in 1899, a third in 1902, and a fourth during 1905. The present translation of the last edition was undertaken to render easily available to English-speaking students of medicine a work too little known in England and America. Professor Sahli chose the title "Lehrbuch der Klinischen Untersuchungs-Methoden," a title which inadequately expresses the large scope of the book. Not only are all methods of examination for the purpose of diagnosis exhaustively considered but the explanation of clinical phenomena is discussed from physiological as well as pathological points of view. This task is carried out with a thoroughness which has not been exceeded in any work on the subject of clinical examination which has appeared.

It is difficult to select from a work of this size any particular points for review. The whole book is replete with interest and from nearly every page something may be learned. The various methods of clinical investigation are admirably described and the most recent aids to diagnosis receive due attention. The section dealing with the arterial pulse contains descriptions of the latest modifications of the sphygmograph and sphygmomanometer. In reference to the first-named instrument modifications have now been introduced by Professor Jarnet and by Professor Sahli which correct the excessive vibration of the recording needle. This is a great improvement, as in the older instruments errors in recording the movements imparted by the pulse were frequent. The sphygmomanometer is now being more frequently used than formerly and is considered by some physicians to yield a more accurate estimation of the arterial tension than can be gained by the use of the fingers only. The Riva-Rocci instrument, slightly modified, has claimed most attention and is well described in this text-book.

A large amount of space is devoted to the description of the various tests which are employed in the examination of the contents of the stomach and the most modern methods are described. For instance, Reissner's improvement of the Lütke-Martius method of determining the hydrochloric acid in the gastric juice is given, whereby the error introduced by the presence of ammonium chloride is obviated. Reissner's method of determining the chlorides for the early diagnosis of malignant disease of the stomach is also described.

In the section devoted to the bacteriology of the sputum the micrococcus catarrhalis is mentioned. This organism is almost always found in the nasal secretion in rhinitis and is also frequently observed in the sputum. It differs from the ordinary staphylococci by its much larger size, by its decolourisation by Gram's method, and by its position in the cells.

The section on the examination of the blood is an excellent one and contains the results of the most recent investigations. Amongst the various forms of apparatus for determining the amount of hæmoglobin in the blood attention is naturally directed to the description of Professor Sahli's new hæmometer. In the instruments which are most commonly employed the solution of blood is compared with an artificially coloured substance—i.e., either with a coloured wedge of glass or with a solution of picrocarmine. To meet the demands of accurate colorimetry, however, the coloured fluid to be examined should not be compared with a different substance similar in colour but with a solution of known strength of the same colouring matter. The difficulty in applying this colorimetric principle in the examination of the blood lies in the fact that solutions of hæmoglobin are not permanent. It consequently follows that if in the interests of accuracy the employment of artificial colours is avoided some permanent hæmoglobin derivative must be utilised in making the standard solution. The solution of blood must then be converted into a solution of the same derivative, when a comparison may be accurately made. After numerous attempts Professor Sahli has succeeded in devising a method by which the hæmoglobin of a solution of blood may be transformed into a derivative by a simple chemical reaction. The procedure consists simply in diluting the blood with a known quantity and strength of hydrochloric acid. After a few seconds the fluid becomes dark brown from the formation of minute particles of hæmatin hydrochlorate. Although this substance is not held in true solution it has the appearance of being so and when diluted with water forms a clear brownish-yellow fluid, the pigment percentage of which may be colorimetrically determined by comparison with a permanent standard solution of the same substance; the exact details by which this method is carried out are fully explained in the book now before us.

There are numerous other matters in this work to which attention might be drawn did space permit. The section on the examination of the nervous system will well repay careful study; here will be found a description of many interesting and important methods of examination which have not yet found their way into the general text-books but are scattered through special treatises on diseases of the nervous system or through the medical periodicals of different countries.

The work is well printed and admirably illustrated. The editors have performed their task in a most praiseworthy manner and deserve the thanks of the English-speaking members of the profession for having produced Professor Sahli's book in its present form. We can cordially recommend this volume to the notice of our readers.

LIBRARY TABLE.

The American National Association for the Study and Prevention of Tuberculosis. New York: Irving Press. 1906. Pp. 448.—We have received a copy of the proceedings of the first annual meeting of the above association which was held in Washington on May 18th and 19th, 1905, under the presidency of Dr. E. L. Trudeau. In preparing the programme the executive committee had provided for three sections—a sociological, a clinical and climatological, and a pathological and bacteriological. Each of these sections held two sessions and, in addition, there were two general meetings of the association. A large number of papers were read and some interesting discussions followed. Addresses were also delivered by the President and the two Vice-Presidents, Professor W. Osler and Dr. Hermann M. Biggs. Professor Osler laid stress on the "education of the public, the profession, and the patients" in matters relative to the nature of pulmonary tuberculosis and the methods which might be adopted to prevent its spread. We have always insisted on the importance of medical practitioners instructing their patients in the proper disposal of the sputum and other measures of disinfection, this being, in our opinion, one of the most

important factors in the general prophylaxis of the disease. Amongst the papers read at the meeting was one by Dr. David E. Twichell on the Vitality of Tubercle Bacilli in Sputum. As a result of his experiments he found that the conditions most conducive to the prolonged life of the tubercle bacillus in sputum are darkness and moisture. In one experiment the bacilli under these conditions were alive at the end of five and a half months. Dryness hastens their destruction. A temperature of about 37° C. is less favourable for them than ordinary room temperature; so is a temperature near the freezing point. The direct rays of the sun kill them in a few hours. These points should be impressed upon patients, more especially the effect of direct sunlight. Two papers were read on the agglutination test for tuberculosis—one by Dr. H. M. Kinghorn entitled "The Serum Diagnosis of Tuberculosis," and the other by Dr. M. P. Ravenel and Dr. H. R. M. Landis, with the title, "Studies in Agglutination." The results closely corresponded—namely, that the agglutination test cannot be relied upon as a trustworthy one and is therefore of no value in diagnosis; that in far advanced cases the reaction is generally absent; and that in cases under favourable conditions, as at a sanatorium, the agglutinating power is distinctly increased. Amongst the other papers read at the meeting the following may be noticed: Infection in Transportation, by Dr. H. M. Bracken; the Progress of the Sanatorium Movement in America, by Dr. W. H. Baldwin; the Examination of the Blood in Pulmonary Tuberculosis, with special reference to Prognosis, by Dr. J. T. Ullom and Dr. F. A. Craig; Studies in Mixed Infection in Tuberculosis, by Dr. M P. Ravenel and Dr. J. W. Irwin; and Results of the Open-air Treatment of Surgical Tuberculosis, by Dr. W. J. Halsted.

A First German Course for Science Students, comprising a Reader and Outline of Grammar, with Diagrams and Vocabulary. By H. G. FIEDLER, Professor of German at the University of Birmingham; and F. E. SANDBACH, Lecturer in German at the University of Birmingham. London: Alexander Moring, Limited. 1903. Pp. 99. Price 2*s.* 6*d.* net.—The importance of a knowledge of the German language to all scientific students is now generally recognised but there are many who have not opportunities of attending a class of instruction in this subject. To such the book before us should prove invaluable, affording as it does an easy introduction to the language while at the same time accustoming the reader to many of the technical words and phrases likely to be met with in lectures and text-books of elementary science. It contains first a series of passages for translation into English, conversational in style, simple at first but of increasing difficulty, with references to the principal rules of German grammar which are set out in the second part. At the end of the book is a vocabulary of the words used in the exercises. The volume deals with elementary chemistry and physics and the text is illustrated with a number of diagrams explanatory of the subject matter. We can imagine no better aid to a student who contemplates going to Germany to attend a course of lectures than a study of this little work. Should it prove successful further volumes dealing with other sciences will be issued.

Nature and Health: a Popular Treatise on the Hygiene of the Person and the Home. By EDWARD CURTIS, M.D., Emeritus Professor of Materia Medica and Therapeutics, Columbia University, New York. New York: Henry Holt and Co. 1906. Pp. 313.—The author states that this book has been written in great part out-of-doors and thought out under the open sky and that the fragments have been committed to paper by the wayside, on the knee or on the flat tops of fences. It is offered to the public "not as learning but as a lure—a lure for the wise living that shall gain from goddess fairer than Hera, than Athene, or than Aphrodite herself, that gift, all Hygieia's own, the priceless boon of health, happiness, and the usefulness of years." The book is written in a pleasant vein. It tells what should be avoided and what should be done in order to live healthily and long. The chapters are headed as follows, the titles showing the full scope of the volume: Breathing; Eating; Drinking; Drugging for Delectation; Seeing; Hearing; Clothing; Bathing; Disposing of Waste; Disinfecting; Exercising Body and Mind; Sleeping and Waking; Working and Playing; and Living and Dying. The text is brightly written and the book will be helpful, we think, to many. The chapter on Drugging for Delectation contains many necessary warnings.

The Thompson Yates and Johnston Laboratories Report. Edited by RUBERT BOYCE and CHARLES S. SHERRINGTON, with H. E. ANNETT, BENJAMIN MOORE, RONALD ROSS, E. W. HOPE, and Assistants. With illustrations and plates. Vol. VII. (New Series), Part I. February, 1906. Published for the University Press of Liverpool by Williams and Norgate. Pp. 87.—This issue contains the following contributions: (1) On a New Pathogenic Louse which acts as the Intermediary Host of a New Hæmogregarine in the Blood of the Indian Field Rat, by S. B. Christophers, I.M.S., and R. Newstead, A.L.S.; (2) Note on the Anatomy of Gastrodiscus Hominis, by J. W. W. Stephens, M.D. Cantab.; (3) A Revision of the Sarcopsyllidæ, a Family of Siphonaptera, by Karl Jordan, Ph.D., and the Hon. N. C. Rothschild; and (4) The Maiotic Process in Mammalia, by J. E. S. Moore, F.L.S., and C. E. Walker, F.L.S. The fourth paper is beautifully illustrated with seven co'oured plates.

Lectures upon the Nursing of Infectious Diseases. By F. J. WOOLLACOTT, M.D., B.Ch. Oxon., Senior Assistant Medical Officer, Park Hospital, Metropolitan Asylums Board. London: Scientific Press, Limited. Pp. 147. Price 2*s.* 6*d.* net.—This work is based on a series of lectures upon the nursing of infectious diseases originally published in the nursing section of the *Hospital*. A description of the chief infectious diseases of this country is given and also of the measures, both preventive and curative, usually taken in dealing with them. The rule that has been followed, is to mention only those forms of treatment which are usually left to the nurse to carry out or for which she must make preparations. We have read this well-written little book with pleasure and it can be recommended to the notice of those for whose benefit it is brought out. The teaching is both sound and practical and the book will be a valuable one for reference in time of need.

The Ship Surgeon's Handbook.—By A. VAVASOUR ELDER, M.R.C.S. Eng., L.R.C.P. Lond. London: Baillière, Tindall, and Cox. 1906. Pp. 167. Price 3*s.* 6*d.*—The treatment of sickness or accidents on board ship is naturally much the same as on shore but the differences of environment in the two cases are so great that some hints from an experienced ship surgeon can hardly fail to be useful to a novice. We have no hesitation in advising any young man who thinks of holding such an appointment to read Mr. Elder's book and to keep his injunctions in mind. A sufficient idea of the nature of the contents will be given by the headings of some of the chapters—namely, Choice of a Ship, Outfit and Uniform, Drugs, Instruments and Appliances, Status and Duties on Board, Fees at Sea, and Medical and Surgical Practice. Sea-sickness has a chapter of about 13 pages all to itself. The concluding chapter, which deals with Ships as Convalescent Institutions, deserves the attention of practitioners who are considering the question of sending a patient on a voyage. We agree generally with the suggestions given as to the class of patients who should not be sent but the recommendation that invalid passengers should carry with them musical instruments upon which they can play is surely open to question, just as much as is the vehement denunciation of ship's firemen

in another part of the book. Ship owners are not all alike in their requirements with respect to what may be called systematic visits made by the surgeon to the portions occupied by passengers, whether first-, second-, or third-class, and the spirit as well as the letter of the Board of Trade regulations must be kept in view. It will be remembered that the Australian contingents during their return home from the South African campaign suffered severely from sickness and in the inquiry which followed complaints were made that the medical officers "did not sufficiently take charge." For this reason we should like to have had a few additional details as to the round of inspection mentioned on p. 34; as to the number, position, and constant readiness of hospital cabins; and as regards sick passengers who either neglect or refuse to send for the surgeon, thereby exposing him to the imputation of negligence if he respects their privacy or of intrusiveness if he does not.

Varicocele in Relation to the Army. By FRANK HOWARD, M.D. St. And., Colonel, Army Medical Staff (R.P.). London: Rebman Limited. 1906. Pp. 3.—In our issue of Sept. 23rd, 1905, p. 923, under the heading of "Varicocele—What of It?" we published a letter in which Colonel Howard raised several important questions relative to this condition. In the first place, he emphatically expressed the opinion that varicocele was not a disability which should entail the rejection of an otherwise suitable candidate for a commission in the army. Furthermore, he is strongly opposed to the performance of any surgical operation for the relief of varicocele in these circumstances. In this he is not in full agreement with the official view, for the army medical regulations as to the examinations of candidates for commissions state that "a slight defect [i.e., as regards the existence of varicocele] if successfully cured by operation is not a disqualification." In the pamphlet now under consideration Colonel Howard discusses the question of varicocele in recruits and points out that the objection to enlisting soldiers in whom varicocele exists is not so much a question of surgery as of military discipline, because such soldiers when they wish to evade certain duties complain of disabling pain in the parts and there is no means of controverting their statements. Varicocele is therefore held to be a disqualification for a recruit (who, if enlisted, would be a private soldier) but in Colonel Howard's opinion there is no reason why it should be a disqualification for an officer.

Reminiscences of a Country Politician. By JOHN A. BRIDGES, J.P., Worcestershire. With frontispiece portrait. London: T. Werner Laurie. 1906. Pp. 274. Price 8*s.* 6*d.* net.—These are the remembrances and thoughts of a member of the old Tory party, of one who would like to have Lord Curzon in command and sees in his the hand to save the Tories from extinction. He finds in the tariff reform agitation the cause which brought about the recent defeat and in his final chapter he speaks of Mr. Chamberlain's utterances and policy with considerable scorn. The title suggests that the book would deal with politics alone but the author touches on many questions and in his chapter headed "Parsons I have Known" he tells some amusing stories in a not unkindly manner. The book contains much that is clever and amusing and we can imagine that its general tone and its genial comment upon men and manners would recommend it to a large number of medical practitioners.

JOURNALS AND MAGAZINES.

Edinburgh Medical Journal.—In the June number the editors announce that for the future this well-known journal will be closely connected with the Edinburgh Medical School, its new proprietors being Edinburgh men whose names are distinguished in medicine and surgery. The editors remain the same. The present number contains among its original articles an interesting paper by Dr. W. Murrell and Mr. H. Wilson Hake on Coloured Urine due to aniline dyes and other pigments. Dr. Hugh A. Stewart records a case of Aortic and Pulmonary Obstruction with Pericarditis, the diagnosis not being, however, confirmed by post-mortem examination as the patient recovered. Mr. J. Hogarth Pringle records notes of some cases of Hernia in which several loops of bowel were strangulated in the same sac and points out some important peculiarities met with in this condition.

Scottish Medical and Surgical Journal.—In the June number, in an inaugural address delivered before the Section of Pathology at the recent Australasian Congress of Medicine, Professor D. A. Welsh deals with the views on Cancer and other Tumours which have been put forward as the result of the work of Professor J. B. Farmer, Dr. E. F. Bashford, and others. Dr. H. G. Langwill records two cases of Transitory Hemiplegia in which attacks exactly resembling the hemiplegia of cerebral hæmorrhage occurred in elderly persons and passed off as suddenly as they arose in the space of a few minutes. Spasm of some vessel is suggested as the underlying condition. Mr. E. W. Scott Carmichael pleads for Surgical Interference in Cases of Intracranial Hæmorrhage in the Newly Born which are likely to lead to permanent paralysis and Mr. Alexander Don discusses the Diagnostic Value of Radiography in Fractures. Professor R. Jardine gives notes of two cases of Vesicular Mole in which there was not the rapid enlargement of the uterus usually looked on as diagnostic of the condition and remarks that he has never seen a case in which the passage of vesicles in the discharges was noted before the uterus was actually emptying itself.

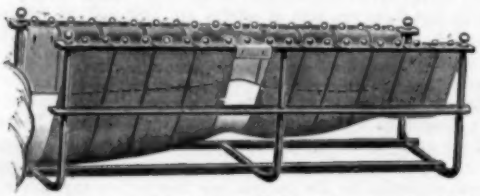
Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXXIV., No. 3. London: C. F. Clay. May 31st, 1906. Price 7*s.*—The following articles are contained in this number of the *Journal of Physiology*. 1. On Some Physiological Actions of Ergot, by H. H. Dale. The nature of the active principle or principles of ergot has not in the author's opinion been quite satisfactorily determined. He finds that the physiological effects of preparations from ergot, such as cornutine and sphacelotoxin, fall into two groups: (1) stimulant effects on organs containing plain muscle, evidenced in contraction of the arteries, the uterus, and the sphincter iridis; and (2) a specific paralysis of the motor elements in the structures associated with sympathetic innervation which adrenalin stimulates, the inhibitory elements retaining their normal function, as do also both motor and inhibitor autonomic nerve-supplies of cranial and sacral root origin. It is probable that these two sets of effects are produced by different active principles of which the one responsible for the peripheral paralysis appears also to be concerned in the central convulsant effects described by Kobert and others. Several incidental conclusions are arrived at and the article is illustrated by many tracings. 2. The Action of Radium Rays on Tyrosinase, by E. G. Willcock, Newnham College. The experiments showed that tyrosinase constituted an apparent exception to the general rule that radium rays are injurious to ferments. 3. The Regeneration of the Blood after Hæmorrhage, by C. Gordon Douglas, B.A. It appeared from the experiments (made on buck rabbits) that after bleeding to the extent of from one-fourth to one-third of the total volume of blood there was rapid restoration of the volume of blood to its normal value followed by an increase above that value. 4. On the Non-uniformity in the Rate of Discharge of Impulses from Cells of the Spinal Cord Poisoned with Strychnine, by David Fraser Harris and William Moodie. The authors found the rate of discharge during the first second as high as 26 in the second, which they think may be explained

on the assumption that the two extensor muscles concerned in their experiments—the peroneus and tibialis anticus—were discharging alternately each at 13 per second but afterwards discharged synchronously. 5. Concerning Cystinuria, by Archibald E. Garrod, M.D. Oxon., and W. H. Hurtley. 6. On the Secretion of Urine, by T. G. Brodie, F.R.S., and Winifred C. Cullis, lecturers on physiology, London School of Medicine for Women. The authors' results negative Ludwig's theory of the mode of action of the kidney and in addition show that the glomerulus will secrete more water and probably more salt when its activity is opposed by a small ureter pressure. 7. On Secretion in the Frog's Kidney, by Winifred C. Cullis, London School of Medicine for Women. The writer of the article holds that the production of urine both from the glomeruli and from the tubules is a true secretory process. She is therefore opposed to the theory of Ludwig. The number contains the Proceedings of the Physiological Society for March 24th.

New Inventions.

A UNIVERSAL LEG SPLINT AND CRADLE COMBINED.

THIS splint, as shown in the illustration, consists of a white enamelled metal frame 32 inches in length, 7 inches in depth, and 9 inches wide. Along the top on each side is fixed a row of brass studs which serve to secure a series of 10 straps. These straps are each 3 inches wide and are buttonholed or eyeletted so as to be adjustable to half an inch. They are made of pegamoid and may therefore be sterilised by boiling. The advantages claimed for the splint are as follows:—1. It requires no padding, thereby saving time and material. 2. The swing arrangement of the straps when in position is more comfortable than a perfectly resistant surface. 3. By means of the adjustable straps it is adaptable to any size, shape, or length of limb, whether child or adult (even an amputation stump). 4. The splint can be used for either leg. 5. It is of the greatest convenience when heel pressure has to be relieved, which in case of either a short or long limb can be easily effected by removing the strap at the location of the heel so that a space is left. 6. One of its greatest acquisitions is the elevation of the limb with steady graduated support to the whole under-surface, which is attained by graduating the length of the straps on which the limb rests. 7. It is obvious also that by regulating the straps the splint can, if required, be used as a double inclined plane. 8. One or more of the straps may be used over instead of under the limb, so as to keep the limb or amputation stump fixed in the case of a restless patient or child. 9. If alternate straps are lowered nearly to the floor of the splint but not touching, so that the leg still swings, and the other ones are buttoned perfectly tense across the top of the splint, the splint then acts as a perfect cradle

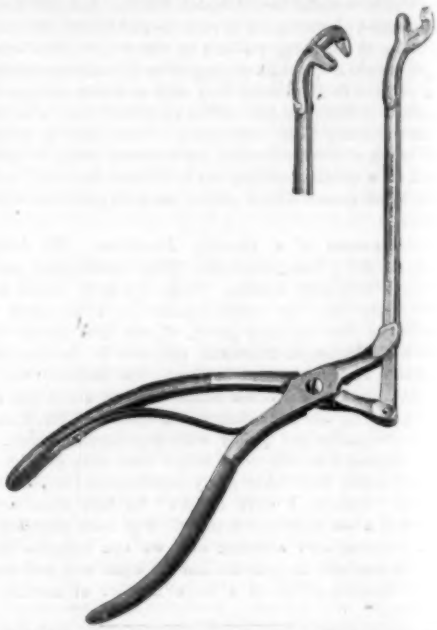


and all pressure of the bed-clothes is removed. If any portion of the foot should project above the splint an adjustable and detachable guard is provided to remove the weight of the clothes. 10. After the leg has been put up in fracture splints it may then be placed in the universal splint and *active* motion thereby prevented. 11. In case of a much swollen limb or one to which application of bandages would not be considered advisable for the reasons of either overheating the parts or after-constriction by the bandages in cases of increase in the swelling, with a sufficiency of top dressings only the straps can be arranged over the injured part of the limb to keep those dressings in place. 12. When excessively wet dressings are required to be applied to the limb, such as evaporating lotions, they can be kept in place without the use of a bandage (which only absorbs the moisture and interferes with evaporation) and by the application instead of one or more of the non-porous pegamoid straps, and by placing a dressing tray within the splint under the suspended leg it acts as a receptacle for the drippings from the moist dressings. 13. The placing of the straps over the limb very much facilitates the keeping of an ice bag in position and they can be made use of for this purpose over any part of the limb, especially the knee in synovitis. I have found them of use in maintaining in position my twin ice bag (made by Arnold and Sons) when used for the leg. 14. The construction of the splint is such that it may be perfectly cleansed. I have had frequent and various uses for the splint over a period of three years and have found it of greatest service. It is manufactured by Messrs. Jas. Woolley, Sons, and Co., Limited, surgical instrument makers, of Manchester.

MARTIN J. CHEVERS.
Withington, Manchester.

PUNCH-FORCEPS FOR OPERATIONS ON THE MAXILLARY ANTRUM AND OTHER ACCESSORY NASAL SINUSES.

Messrs. Mayer and Meltzer have for some time considered the question of forceps for making a large opening into the maxillary antrum by the nasal route and have made punch-forceps from the design of Mr. T. Carwardine of Clifton, Bristol, which appear to have given satisfaction to several of their customers. The complete set consists of four pairs of punches: two of these are downward-cutting for enlarging the right and left antral openings respectively in a downward direction, the third is direct in cutting action, and the fourth is reversed to enlarge the opening backwards and forwards. They consist essentially of a strong hook and guide, the distal part of which is curved and ends in a male cutting blade. The sliding female blade of the punch-forceps is hinged to a thrusting shaft to obtain lateral movement with a maximum of power. The downward-cutting punches are sufficiently powerful to remove the inner wall of the antrum down to the floor of the nasal fossa, where it is thickest; the direct and reversed ones are



intended for removal of the remainder of the inner wall of the antrum. Though designed for operations by the nasal route they are also useful for operation through the canine fossa. The direct-action punch-forceps may be used for other purposes in addition; they are of considerable power and have been found useful for removing the base of the sphenoidal sinus for dependent drainage of that cavity.

THE LANCET.

LONDON: SATURDAY, JUNE 23, 1906.

The General Medical Council and the Teaching of Midwifery.

THE report presented by the Students' Practical Midwifery Committee to the General Medical Council at its meeting on May 28th is one of very great importance. It has long been a well-known fact recognised by most teachers of midwifery that the rules laid down by the Council for the teaching of practical midwifery—namely, that the student should attend the indoor practice of a lying-in hospital, or be present at not less than 20 labours, at least five of which are to be conducted under the direct supervision of a registered practitioner—were not complied with by the great majority of medical schools. Further than this, in many instances students have been allowed to conduct cases of midwifery when they had only attended courses of lectures on anatomy and physiology and had received no instruction at all in midwifery, and the report of the committee shows that in no less than 23 schools the students may attend cases of labour before they have acquired any knowledge whatever of either medicine or surgery. Not only is this so but the amount of supervision exercised over the student is often of the scantiest description and mainly consists in his being accompanied to his first case, or first few cases, by an obstetric assistant. Moreover, as in most instances the work is carried out in an extern maternity charity attached to the hospital, the possibilities of giving adequate, or indeed any, teaching in regard to the progress of labour or the puerperium are simply non-existent. The evidence collected by the committee showed, too, that the certificates of attendance on the required number of cases of labour were often signed by unauthorised persons or without adequate proof being furnished that the student had really carried out the work satisfactorily.

As we have already pointed out, these facts have long been well known by those engaged in the teaching of this subject and attention has been directed to them from time to time by various writers who have demonstrated how deficient the teaching of the student is in this important branch of medicine in this country. The fault is not, however, wholly to be placed upon the shoulders of the teachers It lies as much or more on the examining bodies. The regulation by which, for example, the London student is allowed to proceed to his examination in midwifery on the expiration of one year from the date of passing his first professional examination in anatomy and physiology has been productive of nothing but evil. It results in men going up for their examination in midwifery often completely ignorant of both medicine and surgery, and further than this it results only too often in their frittering away a large part of their first year of hospital practice. Having decided to take up midwifery at the end of this year they proceed to devote most of their time to this subject with the result that they only too often neglect their lectures on medicine and surgery and consequently do not derive the amount of benefit that they should from their terms of office as medical clerks and surgical dressers. If by chance they fail they then have to devote another three months to passing their midwifery test with the final result that the first 15 months of their hospital practice are to a large extent wasted. It is absurd that a student should be allowed to present himself for examination in what after all is a specialised portion of medicine when he is possibly quite ignorant of the parent subject. The result of this is indeed in some instances most ludicrous—for example, it is not an unknown thing for a candidate to tell the examiner in midwifery that he cannot write a prescription because he has not passed in therapeutics, or that he knows nothing of albuminuria complicating pregnancy because he has not yet passed in medicine and therefore cannot be supposed to have any knowledge of the diseases of the kidney. If the student happily succeeds in passing his examination in midwifery at the end of his first year of hospital work he concerns himself no more with the subject, and if by chance some three or four years elapse before he succeeds in passing in the other subjects of the final examination his knowledge of midwifery when at length he is given his diploma to practise is likely to be of the scantiest. It is essential if the teaching of midwifery is to be improved that this unfortunate regulation should be rescinded. The committee of the General Medical Council has, as a result of its investigations, made the following suggestions. No student should be allowed to conduct the 20 cases of labour required until he has filled the post of clinical clerk and surgical dresser and has attended courses of lectures on medicine, surgery, and midwifery. With this recommendation we entirely agree and there should be no difficulty in so arranging the work during the first year of hospital practice as to allow of these duties being performed and these courses of lectures being attended before the student enters on his work in the maternity department. If this suggestion is, however, to be carried out, then it must no longer be possible for the student to present himself for examination in midwifery at the end of one year after passing his first professional examination in anatomy and physiology. Under this scheme he would then attend his midwifery cases in his fourth year or his second year of hospital practice, as indeed is already the custom in a number of the schools. The committee further recommends that the student before attending his cases of labour shall give undivided attention to the indoor practice of a lying-in hospital or the lying-in wards of a general hospital and shall therein attend cases of labour under the direct supervision of a medical officer of the hospital. With this recommendation in the abstract we are also in entire agreement but how it is to be carried out in practice is difficult to foresee. At the present time very few hospitals, at any rate in London, have lying-in wards attached to them and the lying-in hospitals themselves are mainly devoted to the practical teaching of midwives. Indeed, midwives have much better opportunities of obtaining proper clinical

instruction in midwifery at the present time in London than has the medical student.

The number of subjects required to be studied by the student are now so numerous and the claims upon his time so many that it is very difficult to see how he is to obtain the time necessary for a month's undivided attention in the lying-in ward. Already he has more than he can accomplish in the time at his disposal and to improve the practical teaching in midwifery in this way is impossible unless more time can be provided. We believe that a solution of this problem may be found in a more equable distribution of the five years of the curriculum. The amount of time devoted to the preliminary subjects is in our opinion too long and the student should be required to finish his preliminary studies in a period of not more than two and a half years, so that two and a half years may still be available for the adequate study of the many subjects included in the purely hospital part of his course. In some such way only will it be possible to provide time for more extended courses of teaching in practical midwifery. Possibly in the future all the medical schools may be able to provide lying-in wards for the purpose of teaching their students but the solution of the difficulty of obtaining the necessary clinical material is more likely to be met by the amalgamation and enlargement of the existing lying-in hospitals and their adaptation for the purpose of providing the necessary instruction recommended by the committee of the General Medical Council. In this way sufficient accommodation could be provided and arrangements made for the proper teaching of this most important subject. The provision of small lying-in wards in the various hospitals seems to us a wasteful method of procuring the material and it would be much easier to obtain the services of men properly qualified to carry out the training of the students in one or two large institutions than in a number of smaller ones. In the latter cases such teaching will obviously have to be given by much the same persons as give it at the present time—namely, obstetric tutors and residents. We hope that the committee recently appointed by the Royal College of Physicians of London to consider the teaching of the students in midwifery will see its way to endorse the recommendations of the committee of the General Medical Council and at the same time will formulate a workable scheme for the practical carrying out of these recommendations. We trust, too, that it may realise how fully burdened the curriculum of the student already is and that it will not add to this burden without devising some means for providing him with an increase of time in which to pursue the more extended course of practical teaching in midwifery which is undoubtedly necessary if the subject is to be efficiently taught in our medical schools.

The Importance of Early Symptoms in Regard to Diagnosis.

UPON accuracy in diagnosis depends mainly the efficiency of treatment. Although there are undoubtedly cases in which in the absence of a definite diagnosis, or even with a false diagnosis, the treatment adopted may prove successful, yet no one will attempt to deny that with a correct diagnosis the probability of a satisfactory treatment of the patient is greatly increased. It may be definitely said that, as a rule, the success of the treatment varies directly with the accuracy of the diagnosis. Therefore, as the efficient treatment of the patient is the main object of medicine the attainment of an exact diagnosis is the primary desideratum. One main cause of errors in diagnosis is a careless examination of the patient. If physical signs are not noticed though they are present, if symptoms are not inquired for though they may exist, the risk of a mistake as to the disease or injury which is present must be very great indeed. Many a time the early pain of a tuberculous hip-joint has been lightly dismissed as a "growing pain" or "a little rheumatism" when careful examination would have shown that the signs of commencing coxitis were present. This neglect may easily cost the patient his limb or his life. How often has the slight blood-stained mucus of intussusception in a child been fatally disregarded at the time when immediate treatment might have availed. Symptoms and signs are most likely to escape notice when there is present another important factor in the making of erroneous diagnoses, and this factor is lack of knowledge of the meaning and importance of these signs and symptoms. It is difficult to say whether want of care or want of knowledge is of the greater importance but when the two are combined the result indeed may be appalling.

A knowledge of the manner in which a disease has arisen or an injury has been inflicted is of very definite value in estimating the probable severity of the disease or the extent of the injury but too much reliance must not be placed on the mode of origin of a morbid condition, for it may well happen, and it frequently does happen, that from an apparently slight cause very severe results follow. The septic complications that may attend the mere puncture of a pin are well known. In addition to local sepsis the graver complication of septicæmia may occur and a primary sore and a general attack of syphilis have followed a slight scratch on the hand caused by contact with another's tooth. Striking instances of the great and dire results which have followed small and trivial causes must be known to everyone. "Lesions of commotion" to which we referred recently in a leading article on industrial accidents may occur when no apparent injury has been inflicted, yet lesions have resulted which have ultimately given rise to very serious effects. When opportunity offers for examining subsequently the injured organ very little change may be found that is visible to the naked eye and yet the injury to function has been great. It is true that "spinal concussion" has been much misused by malingerers, especially by those claiming compensation after railway accidents. Nevertheless, all who have had much experience in nervous cases resulting from severe commotion will agree that such a condition does exist. It must be clearly understood that the absence of symptoms immediately after an injury is no trustworthy evidence that no harm has been done. A child, three years of age, fell down some half dozen steps of a staircase and, except for a slight bruise on the forehead, he seemed none the worse for his fall. Five days later it was noticed that he held his head in a slightly retracted position and feared to move it. Even this caused little concern to those around him and it was not until his mental condition became obviously affected that medical advice was sought. Then it was clearly

recognised that meningitis was present; it was caused by a fracture through the middle fossa of the base of the skull, communicating with the pharynx. Thus septic organisms had passed in and had obtained access to the meninges. The child died two days later. In this case there was probably nothing to show at the time of the accident that so serious a lesion as fracture of the base of the skull was present but if an early diagnosis had been made it is possible that the fatal ending might have been avoided.

Many cases have been recorded in which the point of a stick or of an umbrella has been thrust into the orbit on the inner side of the globe. There may be no outward evidence of injury beyond perhaps a slight bruising of the lids near the inner canthus or a little ecchymosis of the conjunctiva, but in the majority of these cases there has been present a fracture of the orbital plate of the frontal bone or the lesser wing of the sphenoid. Sometimes the immediate symptoms are hardly noteworthy but the manner of the production of the injury should suggest the lesion which is likely to be present or at least should insure careful watching for a time. The passage of a cartwheel over the abdomen may cause no lesion of the skin beyond a bruise and sometimes no injury to any abdominal viscus may be found but this is quite exceptional and the surgeon has no right to take for granted the absence of visceral lesion merely because there are no immediate symptoms indicative of such an injury. The manner in which the violence has been applied should in itself suggest the probable nature of the lesion present. Several cases are recorded where a kick on the abdomen or some similar form of violence has caused rupture of the liver, the spleen, the bladder, or the bowel and yet has caused hardly any cutaneous injury. The explosion of the breech of a fowling-piece or a rifle has often inflicted severe injuries but in medical literature will be found the records of many cases in which, with very little external injury, a portion of the breech has been carried into the nose or orbit and has lain there unnoticed for months or years. In one case recorded by RUSHTON PARKER in THE LANCET in 1885 the breechpiece and bolt had remained imbedded for five years although they weighed together three and a half ounces. Many a time has a patient with a fractured base of the skull been imprisoned for drunkenness and the diagnosis has only been made at the necropsy. It were easy to quote numerous other instances to show the danger of saying that no injury has occurred when a patient has been exposed to a severe accident. Many lesions take time to manifest themselves and it is far better in such cases to use an excess of caution than to run the risk of disregarding and neglecting a serious lesion.

The American Medical Association.

IT is hard to say to what extent the facts may be due to the essential individuality of the medical practitioner, but the truth remains that the members of our profession seldom show themselves at their best when they are engaged in efforts at combination. We frequently observe on such occasions an undesirable surrender of leadership to mediocrities and a consequent insistence upon questions which might more wisely be left untouched. Men of eminence, when they take part in the proceedings at all, are prone to do so as if under some scarcely veiled form of protest; they almost invariably dissociate themselves, if not in words at least in action, from the counsels and the resolutions which find favour in the sight of some whom the meeting brings into temporary prominence. We have before us copies of the three principal addresses recently delivered at the annual meeting of the American Medical Association at Boston, and it is difficult to read them, or impossible to read them between the lines, without perceiving that conditions familiar to us at home are liable to be reproduced on the Western side of the Atlantic. The Presidential address, that of Dr. W. J. MAYO of Rochester, Minnesota, Honorary Fellow of the Royal College of Surgeons of Edinburgh, naturally claims the first attention and it opens with a protest, such as the articles which we recently quoted from the *St. Louis Medical Review*[1] show not to be superfluous, against any forms of medical organisation which are directed towards the attainment of self-seeking ends. The members of the Association are urged to further the interests of the body to which they belong, not for themselves alone, but in order better to fulfil their sacred obligations to mankind. They are told that the right way to secure proper estimation for the physician is to educate the public with regard to the nature as well as to the importance of his work; and it is explained that popular ignorance of medical affairs is due to bad education rather than to prejudice. The laity are described as being more than two decades behind advanced medical thought and it is said to be the duty of the profession to render them better informed and to divest medical advice and medical practice of the relics of mysticism and of superstition which are the evidences of an origin in priestcraft. The layman accepts with avidity new dogmas and "pathy's" based on theories incredibly foolish in the light of modern investigations and the profession has allowed him to become fixed in such beliefs. It has permitted him to be educated by "patent-medicine" advertisement and by the voluble charlatanism of the commercially interested. In return, the profession itself is classed with these schemers and efforts for the general good are believed to be selfishly inspired. The time has come for the public to be taken into our confidence and if we wish for better results we must enlighten the people with whom rests the final word.

Dr. MAYO proceeds to discuss the means by which the necessary enlightenment may be effected and it is interesting to see that he gives the first place to the efforts of local medical societies, by which occasional meetings should be held to which the neighbouring residents are invited, meetings devoted to the discussion of medical or semi-medical questions of general interest and reports of which would be published in the local papers. He also calls attention to the successful crusade instituted by two newspapers, the *Ladies' Home Journal* and *Collier's Weekly*, against the poisonous substances and intoxicating beverages which are sold under the name of patent medicines and which are only patent in the sense that the name is copyrighted, while the constituents can be changed at any time or in any way.

[1] THE LANCET, June 9th 1906, p. 1623.

He repeats a suggestion which has already more than once been made in this country, to the effect that the protection given by a patent should be conditional upon complete disclosure of the composition of the mixture; but he omits the obvious corollary that any departure from this composition would then justify a prosecution under some Act for the regulation of the supply of food and drugs. He indicates as necessary reforms the establishment of higher and more uniform standards of medical education, hinting not obscurely that none but men of really liberal education can be expected, as a rule, to escape from the commercial standards of their time and their environment, and to reach the intellectual conditions necessary for the most successful practice of medicine. "I have never," he declares, "known a physician who has become rich solely from his profession, and it is better so; for beyond that reasonable competence which leaves him free to pursue his life work the care of money interferes with the highest aims of the true physician, and few who have been burdened with wealth have reached their ideal in a calling which makes no distinction between the rich and the poor." One improper method of obtaining money is condemned, to which, we are happy to believe, no parallel exists among ourselves. Dr. MAYO speaks of a prevailing practice of sending patients to specialists who will pay for the recommendation by a share of the fees which they receive, and it is satisfactory to add that he has personal knowledge of men of good attainments and remunerative practice who have been ruined through losing the confidence of their communities by this pernicious traffic. The difficulties arising from modern developments of pharmacy are referred to briefly and the address is brought to a conclusion by much excellent advice to young practitioners concerning daily study and other matters, advice which would be likely enough, we fear, even in the United States, to elicit from the audience the commentary of the northern farmer—

> "I thowt a 'ad summut to say,
> An' I thowt a said whot a owt to 'a said an' I coom'd awäay."

We have left ourselves but little space in which to speak of the two remaining addresses, How Progress comes in Medicine, by Dr. FREDERICK C. SHATTUCK of Boston, and on the Nature and Progress of Malignant Disease, by Dr. JOSEPH D. BRYANT of New York. The latter is somewhat disappointing, partly because the reports of the Cancer Research Fund have rendered us in this country familiar with the most recent aspects of the problem, and partly because all that it accomplishes is to recommend in many words recourse to early operation in all "accessible" cases of the disease. Dr. SHATTUCK is mainly historical and sketches the progress of the healing art in various directions and as an effect of various studies, but he wisely attaches special importance to an influence which to-day is perhaps liable to be underrated, the influence of clinical research. "Pathologic anatomy," he declares, "remained sterile until wedded to clinical observation." He returns to this general proposition more than once and illustrates it by some well-chosen examples. Anatomy, he says, could never have taught the great lesson of cerebral localisation, nor could animal experimentation or physiology alone. The starting point came from the clinician who, through careful comparison of the experiments made by disease upon the human being, pointed out the way for physiological experiment to follow. In myxœdema, again, the great advance came purely from clinicians, medical and surgical. The experiments of SCHIFF and HORSLEY, although interesting and confirmatory, were not essential stones in the structure. The evidence is sufficiently complete without the aid of the laboratory; and this remark leads to the cogent observation that there is too much tendency in the present day to limit the term "scientific" to investigations which are carried on by men not dealing directly with the sick. The work of the clinician may be every whit as scientific as that of his laboratory brother. The laboratory man has an advantage in being able to inaugurate, to systematise, and to govern his experiments, most of which must be upon animals; but the clinician has the advantage that the experiments performed for him by disease are upon human beings and are often of such a nature that they could not be made artificially. This view of the question is, we think, worthy of all the emphasis which Dr. SHATTUCK has laid upon it; because there can be no doubt that the comparative facility of laboratory work and the comparative certainty of the conclusions drawn from it have a direct tendency to divert students from that careful observation and close study of clinical phenomena without which a man may, indeed, be a biological chemist or a pathologist, but will never be an accurate diagnostician or a successful practitioner.

The Election of Members of Council of the Royal College of Surgeons of England.

ON the Fellows of the Royal College of Surgeons of England rests a heavy responsibility, for to them it is given to elect the members of the Council and on the results of their choice depend the most important interests of the surgical profession in this country. The election should be approached with a due sense of the gravity of the issue. There are in all 24 members of the Council and of these three retire each year, so that the term of service is eight years, but if any member of the Council is elected as a substitute for a member who has died during his term of service or has resigned, then this substitute member has to serve merely for the unexpired portion of the term of his predecessor. At the approaching election on the first Thursday in July there will be three vacancies all due to the efflux of time, no deaths or resignations having occurred since the last election. For these three vacancies there are five candidates, as two of the retiring members have decided to present themselves for re-election and three new candidates have appeared. Mr. JOHN LANGTON has decided not to come forward again. He has served the College for two full terms or 16 years as a member of the Council, for he was first elected in 1890, and the College owes him much for what he has done while he held office. Mr. HENRY MORRIS is another of the present members whose term has come to an end and he is applying for re-appointment. He has not yet had two complete terms of office on the Council, for when he was first elected in 1893 it was as a substitute for Mr. MARCUS BECK who had died. Mr. MORRIS may therefore reasonably look

forward to re-election and we have little doubt that his name will be found amongst the successful candidates. The other member seeking again the suffrages of the Fellows is Mr. F. RICHARDSON CROSS of Bristol. He is a well-known ophthalmic surgeon and holds that position on the staff of the Bristol Royal Infirmary.

As we have already said, there are three candidates who have not yet held office and these are in order of seniority as Fellows: Mr. W. BRUCE CLARKE of St. Bartholomew's Hospital, Mr. G. A. WRIGHT of Manchester, and Mr. CHARTERS J. SYMONDS of Guy's Hospital. Mr. BRUCE CLARKE was a candidate for the Council last year but he retired after the nomination, and before the day of election, and therefore received only a few votes. He is at present a member of the Court of Examiners of the College. He was at one time one of the secretaries of the Association of Fellows and this fact shows that he takes an interest in the affairs of the College. Mr. G. A. WRIGHT of Manchester is surgeon to the Manchester Royal Infirmary and professor of systematic surgery at the Owens College. He is the most distinguished surgical representative of a medical school which has for some years sent no member to the Council of the College. Further, his candidature is being supported by the Manchester and District Society of Fellows of the Royal College of Surgeons of England and support such as this from those who know him is of the greatest value as an indication of the estimation in which he is held. The third new candidate is Mr. CHARTERS J. SYMONDS. He obtained his Fellowship in 1881, later than either of the other candidates, but his Membership dates from 1875. He also possesses the degrees of Doctor of Medicine and Master of Surgery of the University of London. He is surgeon to Guy's Hospital.

There are many considerations which enter into the question of the choice of candidates for such a post as that of member of the Council of the College. The medical school to which the candidate is attached has much effect for it only too often happens that a candidate from a particular school receives votes from those who have studied at that school merely because of his connexion with that teaching body. In the same spirit many provincial Fellows vote for provincial candidates merely because they are provincial. Thus at this very election a circular has been issued, to which we have already referred, by the Manchester and District Society of Fellows urging the Fellows of the College to vote for Mr. WRIGHT because he is a provincial Fellow. With the candidature of Mr. WRIGHT we have every sympathy, not merely because he is connected with a provincial school but because he would be a valuable addition to the Council. The circular mentioned points out that of 1341 Fellows 612 are resident in the provinces and therefore it claims that the representation of this large number by only four members of the Council is inadequate. It appears to be forgotten that a Fellow is appointed a member of the Council not merely to represent a certain section of Fellows but to do the work of the Council. Now, the work of the Council does not consist only of the 11 meetings of the Council; these are undoubtedly important, but still more important are the numerous, the very numerous, committee meetings in which the real work of the Council is done. It is at these committee meetings that the matters brought before the Council are prepared and digested so as to be ready for absorption. This work is arduous and takes up much of the time of those members of the Council who serve on the committees. Now it is quite possible for a provincial Fellow to attend the monthly meetings of the Council and we have nothing to say against the assiduity of the provincial members in attending the monthly meetings, but with regard to the committee meetings the case is far otherwise. It is practically impossible for a provincial Fellow to attend regularly the meetings of the committees, therefore they are rarely appointed members of the committees, while London Fellows have to bear an undue share of the burden of the work of the College. These facts must always prevent provincial Fellows being represented on the Council by a number proportionate to their numerical importance. Still, there should be some provincial Fellows on the Council and we are inclined to think that four is a very reasonable number when we take into consideration all the facts. Another consideration which should have weight with the Fellows in their choice of a candidate is the question whether the candidate is or is not an examiner at the College at the time of election. Undoubtedly the Court of Examiners should be represented on the Council, for in no other way would it be possible to know fully the thoughts of the examiners as to the status and mode of carrying on the examinations of the College. Therefore, a certain number of the members of the Council should be examiners, but on the whole it is better that the number of those who are at the same time members of the Council and examiners should be strictly limited. It must not be forgotten that in many institutions it is not permitted that members of the governing body should also hold positions from which they receive emoluments. Therefore, of two candidates otherwise equally suitable, if one is an examiner at the College and the other is not, there are arguments in favour of selecting that candidate who does not hold an examinership at the College.

We have gone somewhat fully into the consideration of the main points which should influence a Fellow in giving his vote, though there are several to which we have not alluded. There is, however, one further point to which we should like to draw attention and that is the sinfulness of "plumping." The plumper fails to do his duty as a voter; he only concerns himself with the success of one candidate and confesses to an utter indifference as to the remainder of the candidates who may be chosen. Such an indifference may be all very well in political matters but it is inadmissible in a matter which concerns the well-being of the science and art of surgery in this country.

Annotations.

"Ne quid nimis."

THE FIRST INTERNATIONAL CONGRESS ON INDUSTRIAL DISEASES.

AN Italian correspondent writes: "'There is no joy in modern labour,' says Ruskin—a remark which would be less true if labour were carried on under more favourable sanitary conditions. To define the terms under which the labourer can live and thrive with the maximum of cheerfulness and the minimum of risk was the subject that in Milan on Saturday, June 9th, brought

together the first Congress, on an international scale, that has yet taken it in hand. Assembling in the Villa Reale in numbers which included representatives of every European State, the Congress was opened by an able address from its President, the veteran physician, sanitary reformer, and Senator of the Kingdom, Dr. De Cristoforis. Noting his announcement that, for the first time in civilised experience, there will shortly be established in Milan 'una clinica per le malattie del Lavoro,' I must pass on to the agenda paper as worked out in the four ensuing days—a wide, not to say weltering expanse, over which I shall have to speed in swallow fashion, skimming and dipping. First came Dr. De Giovanni of Padua (happily restored to health) on 'Individualità e Malattie Professionali,' insisting on the choice of an occupation being determined not by personal predilection but by the possession of the physical and mental qualifications which admit of its being safely and satisfactorily carried out. 'Night Labour' was the next paper—a report on its dangers and the lesions it causes, by Dr. Carozzi and Dr. Gardenghi, who showed (*inter alia*) the anæmia produced by working in artificial light, the inadequate reparation of an exhausted system by sleep during the day, and the temptation to find in alcohol the energy and alacrity thus withheld. The 'extra-social' life led by the night-worker they hold responsible for a good deal of the 'morbid temperament' often noted in his class. An animated discussion ensued which ended in an 'affirmation' on the part of the Congress that 'night work is anti-physiological; that minors ought never to be employed in it, and that when social or technical reasons make it indispensable special conditions should be devised and enforced for minimising its disadvantages.' Professor Albertoni of Bologna followed with an instructive exposition of the 'Balance between Alimentation and Labour, a subject which he has made his own, and the discussion it evoked, sometimes pathetic in its presentation of the scanty fare (or worse) under which severe and continuous work is carried on in Italy, was wound up with practical suggestions for which the Congress might have made itself collectively responsible. On the ensuing day (the 10th) Dr. Pieraccini read a carefully conceived and illustrated paper, to the conclusions of which the Congress after due debate adhered unanimously, expressing the hope that 'maintaining in force the physiological limitations to the hours of work for women and children, an International Conference should study and propose for male adults the maximum time-limit allowed by physiology for the various industries and industrial occupations.' Dr. Zanoni's proposal that the maximum limit of the physiological day and the capacity of each worker for his allotted task should be determined by medical visits had many to approve it but failed to get unanimous adhesion, and after it came a really brilliant paper by Professor Crisafulli who dwelt on Phrenasthenia and Delinquency in relation to certain Conditions of Labour. This exposition might have been more in place at the recent Congress on Criminal Anthropology; all the same, it was full of independent observation and striking suggestion and went far to prove that Ruskin's 'absence of joy' might have its exit in the 'commission of crime.' Next in succession were Professor Schrötter on the Pathology of Divers and Dr. Giglioli on the Pathology of Work in Compressed Air, whose report culminated, after due discussion, in a recommendation of the Congress that a commission, composed of Professor Schrötter, Dr. Giglioli, Professor Langlois, and Professor Glibert, should be charged with the formulation of rules to be adopted by all workers in compressed air (divers, submarine crews, navvies in tunnels, and such like). Among the papers that followed was a highly important one by Dr. Lussana and Dr. Albertoni on Alcohol and Muscular Exertion, valuable in its specification of the conditions under which wine (as drunk in Italy), in combination with food, is not only not contra-indicated but positively beneficial, after which a report by the President (Dr. De Cristoforis) on Maternity and Labour attracted many ladies among the auditors, its position being luminously and effectively supported by the distinguished Florentine gynæcologist, Professor Pestalozza. Much interest was evoked by Professor Massalongo's thesis on Tuberculosis and the Legislature as regards Labour, at the close of which, after a full and effective debate, the Congress came to a unanimous resolution calling for combined action on the part of the Governments throughout the world for carrying to a successful issue the crusade against a now demonstrably preventable disease. Communications followed on ankylostomiasis and the maladies that beset the labourer in Alpine tunnels, on 'Saturnismus' and 'La Questione del Piombo' (lead), in the handling of which the German 'Congressisti' took a prominent part, winding up with practical suggestions for the protection of the worker, and on the perennial theme of 'malaria,' which provoked a pitched battle between Professor Grassi and Professor Celli of Rome, in which the latter seemed to have the advantage, particularly in vindicating the success of quinine prophylaxis as recently practised in the Agro Romano. Other ground was effectively covered by experts on the lesions caused by the sulphur industry in Sicily and on the hygiene of factories dealing with sulphate of copper, till finally the Congress closed its proceedings with the impression unanimously shared that State medicine had made a notable and most promising start, in an international sense, with every prospect of revolutionising the conditions of labour in the best interests of employers as well as of employed."

"THE REVIVAL OF 'UNCTION.'"

OUR attention has been called to a curious correspondence under the above title which has recently occupied a considerable portion of the columns of the *Yorkshire Post* and which deals with alleged examples of the recovery of sick persons under the treatment recommended in the Epistle General of that St. James who is supposed to have been Bishop of Jerusalem in the early days of the Christian Church and whose letter was declared to be canonical by the Council of Laodicea, A.D. 363. The correspondence commenced by a letter from a reverend gentleman named Saywell who, commenting upon a passage in the "London Letter" of our contemporary, proceeded to describe an alleged experience of his own "18 or 20 years ago," in which a "Mr. N.," not farther described, but suffering from "acute pneumonia," had been "given up" by his medical adviser and although conscious was "*in extremis*" when Mr. Saywell applied the Jacobean treatment of unction and prayer, with the result that the patient, a quarter of an hour after Mr. Saywell's departure, "sat up in bed and asked for a mutton-chop." It seems to be implied in the narrative, although it is not expressly stated, that the patient survived both the mutton chop and the pneumonia, and the story calls forth from another correspondent, Mr. Styring, a not unnatural expression of regret at the lapse of time and the absence of details. Mr. Styring asks for a more recent example of the same kind and also for the full name of "Mr. N.," apparently with a view to further inquiry into the history of his case. Mr. Saywell replies that if Mr. Styring will come to him he will give him the man's name and address and offers as a "more recent case" one in which "two old Wesleyans" were supposed to be dying from bronchitis and in which they both recovered after receiving the Communion from him. In this instance he apparently neglected the teaching of St. James, for there is no mention of anointing and the sufferers were not "*in extremis*," as they are said to have received the Sacrament "reverently." Another correspondent points out that the supposed recovery of the patient suffering from pneumonia sinks into insignificance

when compared with the miracles of healing performed by the so-called "Father Ignatius," and cites one of these in which a man who had been crushed to death by falling stones and "reduced to a mass of pulp" was immediately restored to health and vigour when the Father poured a bottle of Lourdes water over him. In this case, unfortunately, the miracle was not published until 31 years after its occurrence, and therefore, like Mr. Saywell's first case, it seems to elude investigation. It is really pitiable that such nonsense as that which we have been quoting should be admitted, in the twentieth century, into the columns of a respectable newspaper or that an authorised teacher of religion should make such an exhibition of what has happily been called "*l'enthousiasme de déraison*." The publication of the correspondence may perhaps be due to the fact that the prevailing inclemency of the season rendered any description of a gigantic gooseberry too difficult of belief for the generality of readers. The simple explanation that the patients described by Mr. Saywell were never in danger of death at all and that they had probably not been "given up" by their respective medical attendants (if they had any) does not seem to have occurred to any of those who have wasted ink and time upon the question. We have been asked by a professional correspondent to express an opinion as to the possibility of the occurrence described and it is not difficult to comply with the request. As long as medical men are fallible mistakes in diagnosis and prognosis must occasionally occur and patients must recover whose recovery is not expected. But the experience of 18 centuries lends no support to the belief that such recoveries can be promoted by observance of the Jacobean ritual or that they are dependent upon any but simple natural causes. Mr. Saywell and Father Ignatius must alike hide their diminished heads before the miracles of mediæval hagiology, and the ancient and the modern narratives have this much in common, that the more closely they are investigated the less they are found to be worthy of belief.

THE HISTORY OF THE ROYAL SOCIETY.[1]

"He returned to London in January, 1750-1, and astonished the town by the height of his play and the extravagance of his dress. With his diamond shoe buckles and snuff boxes, and a wig of iron wire marvellously contrived to look like hair, he was 'computed to walk 2500 *l.*' and was forthwith elected fellow of the Royal Society."

This delightful paraprosdokian appears in Vol. XXXVIII. of the Dictionary of National Biography, sub nomine Edward Wortley Montagu. This worthy is of interest to the medical profession inasmuch as he was the first native of these islands to be inoculated for the small-pox. According to his mother, the celebrated Lady Mary Wortley Montagu, he was "an excellent linguist, a thorough liar, and so weak minded as to be capable of turning monk one day, and a Turk three days after." These excellent accomplishments will not now open the portals of the Royal Society and we may say with confidence that Montagu's election was one of those casual lapses from grace to which even the highest natures are prone. For in the book now before us we have from the pen of one of the most noted of its alumni some lucid accounts of "the great work, hidden indeed from public view, which at great cost to itself the Royal Society, almost from its foundation to the present time, has carried on with great benefit to the State, and through it to the nation at large." These words occur in the preface of Sir William Huggins's book which is made up of selections from four of his presidential addresses and of some other matter, including a short historical retrospect of the society from the pen of Mr. C. R. Weld, originally written in 1848. The main object of the addresses is to impress upon the State, meaning the people at large, the immense importance of Science both from the industrial point of view and from that wider view that the study of Science has a profound influence in enlarging the powers of the mind. Sir William Huggins is no advocate for altogether doing away with humanistic studies, but he pleads for improved methods in teaching the classical languages, not in opposition to the teaching of Science but in order that each study may assist the other. Science or Natural Knowledge is, to use Sir William Huggins's fine expression, "the true palladium of the empire" and, as he further says, "it is only through an increased understanding of what are called the laws of Nature—the sequence and inter-action of natural phenomena—that we can hope to bring Nature into complete subjection and to make use of her illimitable forces to work out our own ends." We commend this book to all who have the cause of the imparting of knowledge at heart, for the words therein are those of one of the most remarkable workers in the field of knowledge of our time. To have demonstrated the unity of substance which exists between this world and those others of which our universe consists is a notable achievement and this Sir William Huggins has done.

[1] The Royal Society; or, Science in the State and in the Schools. By Sir William Huggins, K.C.B., O.M., &c. London: Methuen and Co. Pp. 131. Price 4s. 6d. net.

LUMBAR PUNCTURE.

ONE of the most important additions to our methods of examination as well as of treatment made in recent years is lumbar puncture. To the *Edinburgh Medical Journal* for May Dr. J. Purves Stewart has contributed an article on the subject containing several important observations. The centrifuged deposit from normal cerebro-spinal fluid under a magnification of 400 diameters should not show an average of more than two or three lymphocytes to the field; sometimes there are no cells of any sort. On the other hand, in certain organic diseases of the central nervous system there may be a great excess of leucocytes—polymorphs or mononorphs. In all cases of acute infection of the meninges there is leucocytosis in which the leucocytes are mostly polymorphs with some large monomorphs. In subacute and chronic diseases of the meninges—tuberculous, syphilitic, or other—and in certain chronic degenerative diseases of the central nervous system there is lymphocytosis—an excess of monomorphs, mostly small, sometimes accompanied by a low proportion of the large variety. The following are some examples. A man suffering from epidemic cerebro-spinal meningitis was comatose and apparently moribund. Lumbar puncture showed that the cerebro-spinal fluid was under excessive pressure, of turbid appearance, and contained 87·3 polymorphs to the field. Within many of the leucocytes the meningococcus was seen. The withdrawal of about an ounce of fluid was followed by marked improvement and recovery. The value of lumbar puncture in deciding the question of operation is shown by the following case. A man suffering from chronic otitis media rapidly developed mental dulness and slight aphasia with some fever. The cerebro-spinal fluid was found to be turbid and to contain no fewer than 371 polymorphs to the field. An operation was at once performed and an inflamed area was exposed in the temporo-sphenoidal lobe but no abscess was found. The symptoms rapidly subsided and recovery followed. In the following case the finding of normal cerebro-spinal fluid was of great value in diagnosis. In a child deep-seated pneumonia was ushered in by head symptoms simulating meningitis. There were marked headache, some retraction of the head, and squint. Moreover, another child in the family had died from meningitis. The cerebro-spinal fluid showed no excess of cells. A favourable prognosis was therefore given and proved correct. Lymphocytosis is most marked in general paralysis and tabes dorsalis. In a series of 12 cases of general paralysis the number of lymphocytes to the field ranged from 26 to 481 and averaged 133. In 25 tabetics

the number ranged from 36 to 316 and averaged 143. Moreover, not only was lymphocytosis present in every case of these diseases but it was often well marked when other symptoms were slight. Thus, one patient had no ataxia and his knee-jerks were present but the ankle-jerks were lost and the cerebro-spinal fluid contained 214 lymphocytes to the field. In an early case of general paralysis there were only slight loss of memory, some fibrillary tremors of the face, and a history of transient aphasia and weakness of the right hand after an attack of unconsciousness (a congestive attack). But there were 481 lymphocytes to the field. Cytological examination of the cerebro-spinal fluid is a valuable means of recognising tabes dorsalis and general paralysis in their early stages. If there is no excess of leucocytes these diseases can be confidently excluded. Syphilis without nervous lesions of the central nervous system produces little or no excess of lymphocytes in the cerebro-spinal fluid. If such is found careful examination for signs of organic disease—Argyll-Robertson pupils, loss of reflexes, and so on—should be made. Even if none are found lymphocytosis is an indication for energetic anti-specific treatment to prevent their development.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS, 1905.

WE have received a copy of the report of Dr. C. Theodore Williams and Dr. H. Timbrell Bulstrode, the delegates of His Majesty's Government to the International Congress on Tuberculosis held at Paris from Oct. 2nd to 7th, 1905. A full account of the proceedings of the various sections was published in our columns at the time of the Congress; we need therefore only refer to a few of the points mentioned in this report which was presented to both Houses of Parliament by command of His Majesty. Attention is quite properly drawn to the excellent arrangement of the museum. It is noted that many of the specimens exhibited illustrated the widespread influence of tuberculosis in the animal kingdom generally and shed considerable light upon the much-debated question of the precise relationship obtaining between bovine and human tuberculosis; indeed, the delegates consider that these specimens left no doubt that human tuberculosis can under certain conditions be transferred to the bovine animal and that what is termed the bacillus of bovine origin can at times be discovered in the human subject. They further state that there seems to be a very strong body of evidence pointing to the conclusion that human and bovine types of the tubercle bacillus are merely varieties of one species and not different species—a conclusion which, if accepted, at once indicates the desirability of preventive measures being extended to bovine animals affected by tuberculosis. With this conclusion we believe the majority of observers will agree. Dr. Williams and Dr. Bulstrode, in summarising the work of the Congress as a whole, consider that it was mainly "helpful in educating the public as to the manifold causes which make for tuberculosis, as to the means which may be taken to render the system relatively immune through resistance, and as to the measures to be adopted in order to avoid infection." They also point out that the Congress accomplished useful work in focussing the progress which had been made in scientific knowledge relative to tuberculosis since the London Congress in 1901 and in reducing to their proper level certain factors upon which undue stress was possibly laid in London. Another point brought to the notice of the public by this Congress was the widespread prevalence of latent or "closed" tuberculosis among school children. The delegates suggest that the general prevalence of tuberculosis, both in children and adults, indicates the need for differentiation between "open" and "closed" tuberculosis in the administrative measures which should be taken against the malady generally. This opens up a wide and difficult question which will necessitate full consideration and further research. We thoroughly agree with Dr. Williams and Dr. Bulstrode in another point which they raise—namely, that in so far as special measures are concerned there would be advantage in greater coördination between all the agencies, preventive and therapeutic, working against tuberculosis. The delegates express themselves as much impressed with the progress which has been made in Germany during recent years—a progress which they consider is to be attributed in material degree to compulsory insurance against sickness. Tuberculosis is a disease which exercises the greatest influence upon the working classes and if these classes appreciate the necessity of aiding in the enforcement of at least some of the reforms referred to in this report they will be furthering not only the battle against tuberculosis but also that against the acute infectious diseases and against ill health generally. Dr. Williams adds to the report a memorandum on considerations arising from the work of the Congress, dealing more especially with the rôle which hospitals and sanatoriums play in helping to combat tuberculosis and its spread. The whole report forms an admirable summary of the work of the Congress and fully justifies the action of Government in sending special delegates.

COUNTRY ROADS AND BRIDLE-PATHS.

THE cordial thanks of medical practitioners resident in rural districts are due to Mr. A. O. Haslewood of Buxton for his persistent efforts to bring about the proper maintenance of country by-roads and bridle-paths. Such roads, bridle-paths, and rights-of-way are to be found in great numbers in many parts of England and although their original formation has often been due to conditions which have been changed, or have even ceased to exist, it by no means follows that the roads themselves have ceased to be of public utility. In the great majority of instances they were short-cuts between places in frequent communication with each other and were valuable in saving the time and efforts of all who traversed them. Regarded from this point of view they were, and are, of special importance to country medical practitioners and consequently also to their patients, abbreviating the time which would otherwise be required to enable the medical man to reach his destination or to pass from one outlying patient to another. In these days of motor-cars, in which the main country roads are often smothered in dust or crowded with vehicles calculated to frighten horses, the utility of by-roads bids fair steadily to increase, and it is nevertheless notorious that they are seldom popular with the actual occupants of the land which they traverse and that they have few friends, as a rule, in the rural district council or other authority which may exercise jurisdiction over their state. In this case, as in so many others, there is urgent need of some public body by which the proceedings of local authorities could be supervised and their defaults made good. For the last four or five years Mr. Haslewood has been active in his endeavours to bring the authorities of his locality to a sense of their duties with regard to by-roads and he has appealed, at present, it must be confessed, in vain, to the Local Government Board which, under the administration of Mr. Gerald Balfour, declared its inability usefully to intervene. There is some reason to believe that Mr. Burns is not at all unwilling to stimulate negligent local authorities to the full extent of his power and we trust that Mr. Haslewood will not be weary of well-doing. He has been steadily supported by the press of his county and he can hardly fail to carry his point

in the long run. The powers of passive opposition are considerable but it is an error to regard them as inexhaustible.

THE PATHOLOGY OF SLEEPING SICKNESS.

IN an article on Sleep, Sleepiness, and Insomnia, contributed to the *Monthly Cyclopædia of Practical Medicine* (Vol. IX., p. 145, 1906) Dr. Arnold Lorand of Carlsbad suggests that the African sleeping sickness may have something to do with thyroid degeneration. He had under his care at Carlsbad an officer of the Belgian Congo State who was suffering from sleeping sickness and whose cerebro-spinal fluid contained trypanosomes. He is therefore practically acquainted with the phenomena of the disease and has come to the conclusion that it is due to thyroid degeneration brought about by the action of the toxins of the trypanosomes on the thyroid gland. One of his arguments in this connexion is to the effect that sleeping sickness presents not only all the clinical symptoms of myxœdema but also the same pathological and anatomical alterations of the central nervous system. Sleepiness is one of the cardinal symptoms of myxœdema and insomnia is a typical symptom of the opposite—namely, Graves's disease or hyperthyroidia. Dr. Lorand, therefore, believes that the thyroid gland is a powerful factor in the causation of sleep, its degeneration producing sleepiness and its hyperactivity producing sleeplessness. A further subject of interest in connexion with sleeping sickness is the announcement that the King of the Belgians, as Sovereign of the Congo State, is offering a prize of 200,000 francs, open to all nationalities, for the discovery of a method of successfully treating the disease, and will make a grant of 300,000 francs for the purpose of studying the disease with a view to its treatment and prophylaxis.

THE RÔLE OF SALAD IN THE DIETARY.

THERE is no more agreeable or refreshing addition to a cold meat collation, especially in the fine warm days of summer, than a well-made salad. It is the experience of a good many persons that the appetite becomes lessened by the sight of food, and more particularly of animal food, on a hot day, and that this is not so much the case when it is accompanied by a fresh green salad which not only renders the outlook of a meal attractive, so far as regards the palate, but encouraging also to the digestive organs. When there is no inclination to eat or when, as it is commonly said, a person does not "fancy" his food, there is, as a rule, torpidity of digestive function. With the sight of tempting food the work of the digestive organs is begun. "The mouth waters," and even the gastric juice flows in response to a pleasant impression. The salad, therefore, may fill a special and important gap in the dietary and when it is prepared with oil, as every good salad should be, it becomes an excellent and agreeable vehicle for conveying fat into the body. It is a singular fact that until quite recent years the salad was an almost ignored dish in this country and its preparation was so badly understood and its attractive qualities were thereby so impaired that few were tempted to include the salad in the daily dietary. The demand for salad has since happily grown, thanks perhaps to the experience of an increasing *clientèle* who have visited the countries of the salad connoisseur on the continent. But even now few English people realise that there is no country so favoured as is England with materials for making salad—materials which grow wild abundantly and which may be possessed for the mere plucking. As a rule, a salad conveys to the average English mind merely a dish of cultivated plants, such as lettuce, endive, cucumber, mustard, cress, onion, or radish. Such excellent wild vegetables as sorrel, dandelion, wild chicory, shepherd's purse, lady's smock, or even stone crop, all dignified by the name of weeds, are well known to our French neighbours as admirable ingredients of a salad, but such plants, though growing abundantly in every grassy meadow, are almost unknown as materials for a salad in this country. Dressed by the discreet addition of sound olive oil and pure wine vinegar, no more excellent adjunct to the cold dish can be suggested. The oil modifies and "smooths" the peculiar flavours of the juices of the plant, while the vinegar softens the tissues, renders them more digestible, and gives an agreeable piquancy to the whole. The use of salads prepared from tender plants by those who possess normal digestive powers is undoubtedly salutary and the constituents of raw green vegetables contain salts which have a favourable effect upon the condition of the blood. In cooking, of course, a large proportion of these salts is removed. It is probably the abundance of alkaline salts in green vegetables which makes them of service in some diseases of the skin. In this connexion it is interesting to recall that scurvy grass, or more correctly scurvy cress, is the name given to certain species of British plants belonging to the mustard family, the leaves of which have anti-scorbutic properties and are eaten for that purpose as a salad. It may also be noted that the expression, "I do not care a curse," was originally, "I do not care a cress," the word cress being used much in the sense of "straw," that is, a substance of comparative worthlessness. In conclusion, it may be observed that great as are the attractions of salad to most people some few on the contrary altogether fail to find it to their liking.

PRE-TUBERCULOUS HÆMORRHAGIC PURPURA.

AT a meeting of the Société Médicale des Hôpitaux of Paris on April 6th M. P. Carnot, M. R. Bensaude, and M. P. Harvier reported the following important case. A woman, aged 22 years, was admitted into hospital on Jan. 16th, 1906, presenting a purpuric eruption and hæmorrhage from the nose and gums. She had enjoyed good health until the end of December, 1905, when she caught cold, coughed a little, and began to waste. On the night of Jan. 13th, 1906, hæmorrhage from the gums began and it continued on the following day, when she noticed a violaceous spot on the right breast. On the night of the 15th there was abundant epistaxis which lasted ten minutes, and stopped spontaneously. On the morning of the 16th the epistaxis recurred and was slow but continuous. At the same time the urine was red as if tinged with blood. On examination she was found to be very wasted and extremely pale, the mucous membranes being completely decolourised; the temperature was 101·3° F.; the pulse was 112 and small. On the lips, the chin, and the temporal regions were petechiæ of the size of the head of a pin. Irregularly scattered on the front of the chest were lenticular hæmorrhages. The abdomen was retracted and presented two or three hæmorrhages. The limbs were covered with petechiæ. On the lower limbs were slightly indurated ecchymoses of the size of a five-franc piece and petechiæ. The tongue was furred and rather dry and showed a few purpuric spots. Signs of pulmonary tuberculosis were carefully looked for but none could be found and the patient neither coughed nor expectorated. The anterior nares were plugged with pledgets containing adrenalin and 200 cubic centimetres of distilled water were injected into the veins. On the 18th the hæmorrhage from the nose and gums recurred and at the point where the injection was given there was a large ecchymosis. On the following days the epistaxis recurred from time to time. On the 24th the liver was found to extend two fingers' breadth below the ribs and the spleen

to be enlarged slightly. The temperature was 99·5° in the morning and 104·3° in the evening. On Feb. 1st there was diarrhœa with passage of whitish, fœtid stools. On the 8th there was some general improvement and the diarrhœa stopped. On the 13th the eruption had disappeared and the liver scarcely extended beyond the ribs. On the 16th there were slight cough and some mucous expectoration. On the 20th the patient was distinctly improved and was putting on flesh and gaining colour. But the percussion note under the right clavicle was elevated in pitch, the vocal fremitus was increased, inspiration was harsh, expiration was prolonged, and after coughing crepitations were heard. The sputum contained a few tubercle bacilli. On the 22nd the urine contained a little pus and some tubercle bacilli. Purpura hæmorrhagica may have several relations to tuberculosis. In one group of cases purpura occurs in patients suffering from acute tuberculosis. In a second group purpura occurs during chronic tuberculosis. In a third group the purpura precedes the manifestations of tuberculosis, as in the case related above, or occurs in the subjects of latent tuberculosis.

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the National Committee for Great Britain and Ireland was held at the rooms of the Medical Society of London recently, when there were present, amongst others, Dr. F. W. Pavy, Sir Dyce Duckworth, Deputy Inspector-General A. J. J. Johnston, R.N., Mr. W. H. H. Jessop, Mr. George Jackson, Dr. Boyd B. Joll, and the honorary secretaries, Dr. Clive Riviere and Mr. D'Arcy Power. A report upon the Lisbon Congress was read and adopted. It stated that about 75 British members had attended the Congress and that communications had been made to the sections by Dr. Pavy, Professor Rubert Boyce, Professor R. J. Anderson, Dr. Gustav Mann, Dr. E. F. Bashford, Sir Dyce Duckworth, Dr. Boyd Joll, Dr. F. W. Mott, Dr. D. Ferrier, Dr. H. Radcliffe Crocker, Dr. Stanley B. Atkinson, Mr. D'Arcy Power, and Mr. Kenneth W. Goadby. Attention was also drawn to the fact that by the appointment of Sir Dyce Duckworth by His Majesty's Honourable Privy Council the British Government had been for the first time represented by a delegate. Votes of thanks were ordered to be given to Professor Bombarda, the secretary-general of the Lisbon Congress, for the admirable manner in which he had organised the meeting and to the British colony at Oporto for the hospitality which they had extended to the British members of the Congress who had visited that city. The proceedings closed with a vote of thanks to the Medical Society for the use of the room.

THE COMPLICATIONS OF CHICKEN-POX.

IN the great majority of cases chicken-pox is of so mild a character that very little disturbance of the general health occurs except some slight malaise a few hours before the eruption with or without a small rise of temperature; moreover, apart from complications incidental to the skin lesions such as infection by pyogenic organisms and subsequent scarring complications and sequelæ are comparatively uncommon. Nevertheless, as in the case of nearly all the eruptive fevers, a hæmorrhagic form of the disease has been described, although it is of very rare occurrence. An interesting case of this kind has just been recorded in THE LANCET[1] by Dr. C. Rundle. The patient was a boy, aged two years, who presented at first the appearance of a case of varicella of moderate severity. On the second day of the eruption the parents noticed the occurrence of bleeding into the spots, while when admitted to the hospital on the third day there were extensive hæmorrhages not only into the vesicles but also scattered profusely over the trunk, the shoulders, the thighs, and the legs. In spite of this the general condition of the child appeared to be very satisfactory but next day the hæmorrhages extended more widely and extravasation occurred under the conjunctiva of the right eye and also in the lips and gums, death occurring on the morning of the fifth day of the disease with signs of toxæmia. Dr. Rundle's case is carefully recorded and the diagnosis from the other hæmorrhagic diseases of infancy and childhood is given. He appends references to other recorded cases, which are very few in number. The rarity of the condition may be inferred from the fact that in many of the larger text-books and encyclopædias of medicine no mention is made of it, while in others it is dismissed with very scant reference. The hæmorrhages usually occur into the tissues at the base of the pocks and into the skin apart from them. In some cases bleeding occurs from the mucous membranes, even before the appearance of the cutaneous lesions of the disease, but these mucous hæmorrhages may be entirely absent, as in Dr. Rundle's case. In a few cases blood in the stools may occur without other hæmorrhagic manifestations. Another rare variety of varicella is the confluent form, of which two cases have recently been referred to in our columns, one recorded by Dr. J. D. Rolleston,[2] in which hæmorrhages also occurred into a few of the vesicles; the second by Dr. J. T. Neech.[3] Nephritis may also occur during the course of varicella in rare cases, as first observed by Henoch. Even with these serious complications the disease is usually recovered from but death may in very rare cases result in the hæmorrhagic cases and in those complicated by nephritis.

[1] THE LANCET, June 16th, 1906, p. 1692.

THE EXAMINATION OF FOOD IN THE BOROUGH OF STEPNEY.

IN his report recently presented to the public health committee of the borough council of Stepney Mr. D. L. Thomas, the medical officer of health, points out, amongst other things, a factor that may cause tinned food to be dangerous although the food itself appears perfectly wholesome and there is no sign of decomposition, and that is the contamination of the contents with tin or lead which may be considerable when the canning is old. During the last few years he has frequently analysed the contents of old tins which were found "to contain such large quantities of tin, together with occasionally small quantities of lead as to be positively dangerous." The tins showed no sign of bulging and when they were opened the contents appeared to be wholesome and tasted as well as any freshly-cooked meat. The maximum amount of tin (grains per pound) found in canned goods was as follows:—Lobster, 2·94; mackerel, 0·55; pineapple, 2·97; salmon, 1·32; condensed milk, 2·37; apricot, 2·92; raspberry pulp, 0·65; tinned eggs (liquid), 0·55; ham, 0·50; black currant pulp, 1·96; apricot pulp, 0·60; and peas, 0·88. Lead was found in the salmon only and then it was but a trace. In one instance some raspberries sent from New Zealand had been preserved with sulphurous acid which, however, discoloured them; the colour was restored by soaking the fruit in an aniline dye. Mr. Thomas summarises his results by saying that (1) decomposed food will as a rule in time cause bulging of the tins; (2) experienced men only can detect the presence of putrefaction of the contents when the gas is not sufficient

[2] THE LANCET, Feb. 3rd, 1906, p. 313.
[3] THE LANCET, Feb. 24th, 1906, p. 515.

to cause bulging; (3) blown tins are apparent to all and when opened the contents are offensive; (4) tin, and on rare occasions lead, may be present in such quantities as to be injurious to health though the food itself may appear to be quite wholesome (their presence can only be detected by chemical examination); and (5) diseased meat may have been used (no practical examination will detect the presence of such diseased meat once it has been tinned, for a bacteriological examination of a few tins out of each consignment would not be a guarantee of the condition of the contents of the remainder).

THE Department of Public Health of Queensland in its Plague Bulletin, No. 10, states that for the week ending May 12th no new case was reported in either Brisbane or Rockhampton. In Brisbane the date of the last case was April 30th and no patients remained under treatment. In Rockhampton the date of the last case was May 1st, the last plague-infected rat was found on May 5th, and 6 patients remained under treatment. The medical officer of health of the Cape Colony states that during the week ended May 26th there were 72 rats and 64 mice bacteriologically examined, of which 3 rats and 1 mouse proved to be plague-infected. In Hong-Kong 57 cases of plague and 45 deaths were reported during the week ended June 16th.

AN extra meeting of the Royal Medical and Chirurgical Society will be held at 20, Hanover-square, London, W., on Tuesday, June 26th. This meeting has been called owing to the number of papers in hand. The following papers will be read: On Appendicitis and Gangrene of the Appendix considered as Separate Diseases, by Mr. John D. Malcolm, and on Submucous Excision of Deviations and Spurs of the Nasal Septum, with a Report of 30 Operations, by Dr. StClair Thomson.

Dr. R. Murray Leslie has, on the recommendation of M. Cambon, the French Ambassador, received the Order of Officier d'Académie Française. Dr. Leslie is senior physician to the Tottenham Hospital and lecturer in medicine at the North-East London Post-Graduate College connected therewith and physician and pathologist to the Royal Hospital for Diseases of the Chest, City-road, London, E.C.

IN connexion with the opening of the King Edward VII. Sanatorium at Midhurst last week the King has conferred upon Dr. C. Theodore Williams the membership of the Fourth Class of the Royal Victorian Order, and on Dr. P. Horton-Smith-Hartley, who acted as honorary secretary of the executive committee of the sanatorium, the membership of the Fifth Class.

THE King has promoted Mr. Andrew Clark, F.R.C.S. Eng., and Mr. Robert Jones, M.D. Lond., from Honorary Associates to be Knights of Grace of the Order of St. John of Jerusalem in England.

The annual garden party will be held at Guy's Hospital on Wednesday, July 4th, when Sir W. Cameron Gull, Bart., will distribute the medals and prizes to the successful students.

The Right Hon. R. B. Haldane, K.C., M.P., His Majesty's Secretary of State for War, will distribute the prizes at the London Hospital Medical College on Friday, July 13th.

Dr. T. F. Pearse has been appointed acting health officer to the city of Calcutta for a period of seven months.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

(Concluded from p. 1638.)

Cardiac Symptoms in Acute Polymyositis.

DR. LORENZ (GRAZ) said that in this disease, the bacteria of which had not yet been discovered, not only the muscles but also the subcutaneous tissue and the mucous membrane were implicated. The muscular substance of the heart was believed to become affected only in cases where the myositis was of a hæmorrhagic character—hæmorrhagic polymyositis. Recent experience showed that cardiac myositis might be absent in hæmorrhagic polymyositis. The lesion of the heart muscle in polymyositis might be either hæmorrhagic myositis or simple myositis but suppuration never occurred. The clinical symptoms were very characteristic. The first indications were tachycardia or arrhythmia, which was followed by a feeling of urgent distress (*Angstgefühl*) with severe dyspnœa and clonic contractions of various muscles, the cardiac action being also stopped for several seconds, so that death might at once occur. On the other hand, the attack might pass off and reappear with varying intensity.

The Pathogenesis of Stokes-Adams Disease.

Professor SNYERS (Liége) said that the principal theories proposed in explanation of this condition were three in number. One of them regarded degeneration of the heart muscle as the cause of the symptoms; the second held that the medulla oblongata was at fault; while in the third place pathological changes in the coronary vessels or in the vessels of the medulla oblongata or of the vagus nerves were supposed to be the essential lesions. It must, however, be admitted that the pulsus lentus permanens was a symptom occurring in a variety of pathological conditions in which the vagus nerve was irritated. Stokes-Adams disease was therefore to be regarded not as a distinct disease in either an anatomical or a pathological sense but rather as a symptom.

Intravenous Injections of Strophanthus in Diseases of the Heart.

Dr. FRAENKEL (Badenweiler) said that the action of intravenous injections of strophanthus on the heart was very prompt and trustworthy; especially in œdema the effect of this remedy was maintained as long as when digitalin was employed.

The Normal Position and Size of the Heart.

Dr. DIETLEIN (Munich) said that the size of the heart depended on the stature, the weight, the age, and the sex of each individual and that normal measurements might be obtained from those data. The position of the heart in the thorax depended on the diaphragm and was therefore different in the male and female sex. The form of the normal heart had a relation to the form of the thorax.

Transcortical Motor Aphasia.

Dr. ROTHMANN (Berlin) said that the transcortical motor aphasia as described by Lichtheim and Wernicke was rather indefinite from the clinical and anatomical point of view. According to Professor Lichtheim, the characteristic symptoms were that the patients could not either say or write anything original, but they were able to write from a copy or from dictation and to repeat words and he considered that a centre in the third frontal convolution was at fault. Up to the present time, however, no sufficiently definite case has been observed, as sometimes lesions of the cortex of Broca's convolution and sometimes diffuse encephalitis were present as the cause of the form of aphasia described. The affection was therefore by some authors regarded as a functional derangement of Broca's centre. Dr. Rothmann has recently observed a case in which the aphasia in question was the sequel of an apoplectic fit which had occurred six years previously; the necropsy showed a sclerotic focus in the third convolution. Transcortical motor aphasia was caused by an interruption of the association fibres between Broca's centre and the operculum.

X Rays in the Treatment of Chronic Bronchitis.

Dr. SCHILLING (Nuremberg) said that he had treated a

[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin Correspondent.

series of patients suffering from bronchitis by means of the Roentgen rays. One case excepted, the results were favourable as the bronchial secretion decreased. Even in cases of some months' duration the expectoration became less copious and in some instances totally disappeared without any undesirable complications. The general state of the patients and their respiratory difficulties were also relieved.

The Significance of Pyrexia in Disease of the Bile Passages.

Professor EHRET (Strasburg) said that in five out of 22 patients suffering from cholecystitis he had discovered in their blood micro-organisms which after the operation were found to be present in the gall-bladder also. The occurrence of pyrexia in diseases of the gall-bladder was the symptom of an infectious process. Highly infectious conditions might, however, be present in patients showing either no pyrexia or very little, especially in relapsing cases. These clinical observations were made comprehensible by the hypothesis that alexic substances were produced by the infection of the gall-bladder. The alexins were apparently of general and local nature. Professor Ehret had been able to produce in dogs which had recovered from an infection of the gall-bladder a new infection of the same kind but without fever.

"Functional" Diagnosis of Disorders of the Circulation in the Early Stage.

Dr. RAAB (Munich) described a method which he said would enable practitioners to ascertain the power of the heart muscle and of the arteries. In it the usual methods of auscultation and percussion were supplemented by measurements of the capillary and arterial blood pressure before and after a certain amount of exercise. Strassburger's method of measuring the systolic and diastolic blood pressure was to be used and pulse tracings were to be taken before and after the exercise. In this way medical men might ascertain the distribution of the blood in the arterial and capillary vessels and might diagnose disorders of the circulation previously to the appearance of grave symptoms.

Anuria in Diseases of the Kidney.

Dr. PÄSSLER (Dresden) said that he had observed a case of total anuria prolonged for 11½ days and then terminating fatally without the occurrence of symptoms of uræmia. He therefore concluded that Senator was right in his opinion that the uræmic toxin was not present in normal urine. The increase of blood pressure observed in anuria was not in accordance with Loeb's theory as to the increase of blood pressure in nephritis. Œdema might be absent even in cases of anuria in which great quantities of fluid were retained in the tissues. Dr. Pässler therefore assumed the existence of two clinically and etiologically distinct forms of œdema in diseases of the kidney—namely, an extrarenal anasarca and a "nephrogenic" œdema.

Professor TALMA (Utrecht) reported that he had discovered that the life of guinea-pigs without kidneys or with ligatured ureters was preserved for some time when blood or ascitic fluid of uræmic patients or rabbits was injected.

Amylosis Pulmonum.

Professor VON JAKSCH (Prague) said that he had seen a case in which the sputum showed the starch reaction with iodine. This symptom even continued when the patient's food did not contain any carbohydrates. The amylaceous substance had therefore apparently formed a collection in the lungs just like siliceous or carbonaceous particles in the lungs of stone-workers or coal-miners respectively. The late Professor Gerhard had suggested from a theoretical point of view that flour must be present in the lungs of bakers and the above case showed that his suggestion was practically right.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on June 14th, Mr. JOHN TWEEDY, the President, being in the chair.

It was reported that at the First Fellowship Examination held in May last 111 candidates presented themselves, of whom 41 were approved and 70 were rejected.

It was resolved to issue Diplomas of Fellowship to 16 successful candidates at the late Second Fellowship Examination.

It was resolved to issue Diplomas in Dental Surgery to 37 successful candidates.

A summary of the history of the College was read; it had been prepared by the President and the secretary. It was resolved to publish it in the College Calendar.

The following examiners were appointed in accordance with the recommendations of the nomination committee:—Elementary biology: Thomas G. Stevens and H. W. Marett Tims. Anatomy for the Conjoint Examining Board: Christopher Addison, Arthur Keith, James Ernest Lane, and Holburt Jacob Waring. Physiology for the Conjoint Examining Board: T. Grigor Brodie, John B. Leathes, and W. H. Thompson. Anatomy for the Fellowship Examination: Christopher Addison, Louis Albert Dunn, W. McAdam Eccles, and Arthur Keith. Physiology for the Fellowship Examination: De Burgh Birch, Leonard Erskine Hill, Edward Waymouth Reid, and Ernest Henry Starling. Midwifery for the Conjoint Examining Board: George Francis Blacker, Arthur H. Nicholson Lowers, William Rivers Tate, and Walter W. Hunt Tate. Examiners in Public Health: Part I., Harold R. D. Spitta; Part II., Herbert Timbrell Bulstrode.

A letter was read from Mr. Henry Morris reporting the proceedings of the General Medical Council at its recent session. The best thanks of the Council were given to Mr. Morris for his services as the representative of the College in the General Medical Council.

It was resolved to erase from the Dentists' Register three names. This was done in accordance with Section 13 of the Dentists Act of 1878—namely: "Any name erased from the Register in pursuance of this section shall also be erased from the list of licentiates in dental surgery or dentistry of the medical authority of which such person is a licentiate."

It was resolved to restore to the Register the name of a former Member of the College who had been removed.

A report was received from the committee appointed on April 5th, 1906, to consider the question of admitting women to the examinations of the College. The committee in its report considered that the time had come for affording once more to the Fellows and Members an opportunity of expressing an opinion in the matter. The Council resolved to refer to the committee the question of the time and manner of the proposed consultation of the Fellows and Members on this subject.

A letter was read from Mr. R. A. Robinson, President of the Pharmaceutical Society, calling attention to the amendment recently carried in the House of Lords on the Poisons and Pharmacy Bill to the effect that a company or body corporate composed of unqualified persons may use the title of "chemist," provided it has in its employ a person who is qualified under the Pharmacy Act; suggesting that this decision, if allowed to become law, may have far-reaching results not only to chemists but also to surgeons, dentists, and other individuals who are required by law to possess a personal qualification; and expressing the hope that the Council of the College may see fit to exert its influence in protesting against the establishment of such a dangerous precedent and take such steps as it may deem necessary to impress upon the Government the danger to the public and the great injustice to qualified persons involved in such proposed legislation. It was determined to request the President and Vice-Presidents to communicate with the Privy Council and to express the opinion of the Council of the College as to the undesirability of the proposed legislation.

A letter was read from the Physiological Society calling attention to the proposed appointment of a Royal Commission to consider the conditions under which experiments on animals are at present permitted; and asking the Council to appoint one or more delegates to aid in the formation of a Central London Committee to coördinate the efforts of the various learned societies interested in biological research.—Mr. R. J. Godlee and Mr. C. H. Golding-Bird were appointed delegates.

A letter was read from Mr. J. Gray stating that he had been requested by the Council of the Anthropological Institute to organise a deputation to the Prime Minister to urge him to appoint a committee or Advisory Council on the lines recommended by the Interdepartmental Committee on Physical Deterioration, to carry out an anthropometric survey of the United Kingdom; and asking whether the College will join such a deputation in the event of the Prime Minister consenting to receive it.—Mr. Arthur Keith was appointed as the representative of the College on the deputation.

The PRESIDENT stated that he had instructed the librarian to deliver to Dr. Walter Chase of Boston for presentation to the Medical School of Harvard University 77 prints and engravings of physicians and surgeons of the eighteenth and earlier centuries, selected from duplicates in the library collection. A letter was read from Dr. Chase stating that it would give him much pleasure to present the gift to the Harvard Medical School.

The PRESIDENT reported that a meeting of Fellows would be held on Thursday, July 5th next, for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Mr. John Langton, Mr. Henry Morris, and Mr. Francis Richardson Cross, of whom Mr. Langton did not propose to offer himself for re-election.—It was resolved to give the best thanks of the Council to Mr. Langton for his services to the College and the Council during his long period of office.

Dr. J. WARD COUSINS gave notice of the following motion for the next meeting of the Council:

It is the opinion of the Council of the Royal College of Surgeons of England that the Midwives Act as it now stands is unfair to the medical profession, as it contains no provision to secure just remuneration for professional services rendered during the attendance of midwives practising under legal supervision.

THE STATE REGISTRATION OF NURSES.

Lord Crewe, the Lord President of the Council, received an important deputation to protest against the Bill now before Parliament for the registration of nurses on June 14th at the Privy Council Office, Whitehall, London. The deputation was organised by the Central Hospital Council for London and amongst those present were Mr. H. A. Harben, L.C.C., the Hon. Sydney Holland, Dr. W. H. Allchin, Dr. J. Kingston Fowler, Sir Thomas Barlow, and Sir Frederick Treves. There were present also the Duchess of Bedford, the Marchioness of Salisbury, the Countess of Pembroke, the Viscountess St. Aldwyn, Lady Raleigh, Lady Northcliffe, and the Hon. Maude Stanley. Several matrons of London and provincial hospitals attended.

Mr. HARBEN, chairman of the Central Hospital Council for London, in introducing the deputation, said that the council which he represented was opposed to the State registration of nurses. It was claimed that registration would prevent the employment as nurses of women who were not properly trained for the work and that it would enable the public when engaging a nurse to distinguish between one who was efficient and one who was not. It had, however, to be remembered that in the majority of cases nurses were not engaged by the patient but through a medical man who had every opportunity of knowing the character of nurses supplied by the various hospitals and associations. That the work of some nurses was bad was admitted but their inefficiency was often due to causes apart from lack of training. It was of the utmost importance that very poor people should be able to obtain the services of nurses willing to accept a lower rate of pay than was demanded by fully trained nurses. Once registered it would be a most difficult matter to remove a nurse's name from the list; in fact, it would be almost impossible unless she were guilty of some criminal offence. The alternative which the council desired to propose was the institution of an official directory, recording particulars of name, places, dates, and periods of training and appointments.

The Hon. SYDNEY HOLLAND pointed out that the matrons of the London and St. Bartholomew's Hospitals had not had the training which would qualify them to be placed on the proposed State register of nurses. That scheme would cast a slur upon many women doing most excellent work. If there were a State register the State would have to guarantee that all persons whose names were upon the register were fit and proper persons to discharge the duties of nursing. To effect that would be impossible but an official directory as proposed by the Central Hospital Council would answer the purpose required.

Sir THOMAS BARLOW said that although he was not a member of the Central Hospital Council he was in sympathy with its views on this question and was glad to be allowed to say a word in support. He believed that if the State registration of nurses were carried out as had been suggested, it would be a momentous step and fraught with risk to the proper relationship of nurses, medical men, and the public. If the great mass of medical men concerned with private nursing were polled the majority of their complaints would be found not to refer to unskilfulness of nursing but to questions of discipline and conscientious discharge of duty. For the most part medical men found nurses exceedingly obliging and willing, but there were certain nurses who, in the medical man's presence had a smooth tongue and pleasant manner but during the still hours of the night these same nurses acted very differently to the patient, for then it was that the tyranny and neglect of bad nursing came into operation. It was often very difficult to deal with such neglect. He believed that the only way in which it was at all possible to deal with questions of conduct and discipline was to support nursing organisations which were in active relationship with the great hospital training schools or with a very strong executive. Moreover, nurses ought to go back from time to time to the hospitals to learn the latest methods of surgical and medical treatment. By such means efficiency could at all events be striven for and slackness be neutralised. On the other hand, the suggested State registration would make for finality and lessen the laudable ambition for perfection. It would tend to establish the absolute autonomy of the nursing community and to render nurses independent of that amount of supervision and review which was desirable in the interests of sick people. In fact, the result of State registration would be to make nurses practically independent of medical men, hospital matrons, and nursing superintendents. Many faults would pass unnoticed, for, except on the ground of grave delinquency, a medical man would be most reluctant to report a nurse to the registration authority and thus seriously to imperil the nurse's livelihood. Whilst placing the needs of the public first Sir Thomas Barlow said that he warmly sympathised with the desire of nurses that their work and training should be properly recognised and that their service should be adequately paid and he considered that the proposed voluntary official directory would meet the claim and aspirations of a good nurse and would to a large extent set forth what the nature and amount of her experience had been. On the other hand, he objected to the proposed State registration because the method copied the bad side of trade unionism in reducing all to the same dead level. At the present time the education of nurses was passing through a transition period. He believed that it was too academic and that there was too much book work. It was quite certain that there were many first-rate nurses who would be entirely disqualified for State registration by their inability to answer examination papers. He trusted that there would be considerable modification; it was undesirable that the training and examination should be crystallised in their present form as would be the case if State registration were adopted now. He advised that the subject should be allowed to remain quiet for a little longer, so as to give the hospital training schools a chance of working the matter out on the best lines. Considerable variety and freedom in methods of training and testing, so far from being a calamity, were a positive advantage in the gradual evolution of the best scheme and in the preparation of different types of nurses suitable for different kinds of work. Turning to the question of inefficient care in private nursing homes, Sir Thomas Barlow affirmed that if the scheme of an official directory of private nurses were adopted it would make for the security of the public. Many "homes" were excellent and their fees were well earned, but in some of them there was a mercenary spirit with respect to the quality of night nurses supplied. Untrained probationers were not infrequently employed. If the proposed directory were instituted then patients going into the nursing homes ought to have the right to see the list of the qualifications and experience of the respective nurses to be set apart for their care.

Lord CREWE, in reply, pointed out that among those who were in favour of State registration there were many whose opinion certainly could not be ignored, whilst it was also impossible to ignore the conclusions arrived at by the committee which sat in 1904–05. He was obliged to tell them, as he had informed another deputation, that it was impossible for the Government to take this matter up at present—certainly not in the coming session. Although there could not be any Government action in the near future he promised full consideration by his department of the representations made by the deputation.

Mr. HARBEN expressed the thanks of the deputation to Lord Crewe for his courteous reception of their views.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 21st, 1828.

WATER-PROOF CLOTH URINALS.

IN a communication from Mr. W Maclure, of Harley Street, Cavendish Square, we are informed, that a new and useful application of the "Glasgow water-proof cloth" is found in the manufacture of Urinals. This water-proof cloth, of which a Mr. Mackintosh is patentee, according to Mr. Maclure, is composed of two layers of cotton cloth, with "an intervening layer of a glutinous solution of caoutchouc," and it has been extensively used for various purposes, in the manufacture of life-preservers, &c. From its possessing the property of being impervious to air as well as to water, the patent cloth has likewise been used for the making of cushions and pillows, which are so formed as to be readily inflated with air when required. Mr. Maclure justly remarks, that it is somewhat singular surgeons have not availed themselves of the use of this cloth, as there are many cases in which it would contribute greatly to the comfort of the patient, and in none more obviously than in cases of incontinence of urine. The glass, or earthenware urinals, are objectionable, on account of their liability to be broken, as well as on account of their bulk and unyielding nature; and, although they may be used occasionally, they cannot be kept constantly applied so as to receive the urine when it dribbles from the body. The water-proof cloth urinal, which is an admirable substitute in such cases, is made of a conical shape, and draws together at the mouth by means of tape. There are attached to it two long and two short tapes; the former, after having puckered the mouth of the urinal around the root of the penis, are passed round the body in opposite directions, and then tied in front. The short tapes are intended for the purpose of encircling the scrotum. It is further stated, that the urinal may be conveniently worn during the day, which is, indeed, a most important qualification. Care must be taken not to make an aperture in the urinal, in which case it is spoiled; and, to remove the fœtor, which it otherwise acquires by use, it is frequently to be washed in warm water without soap.

INDIAN MEDICAL SERVICE: THE ANNUAL DINNER.

THE annual dinner of the Indian Medical Service was held on June 14th at the New Gaiety Restaurant and was well attended. There were no speeches, the chairman, Surgeon-General L. D. Spencer, C.B., briefly pointing out that the occasion was meant not for the exercise of oratory but to afford an opportunity for the meeting of old friends and the cementing of ties. The evening was treated in exactly this way and was consequently thoroughly enjoyable.

The members of the service present were:—*Surgeon-Generals:* A. M. Branfoot, C.I.E., W. R. Browne, J Cleghorn, C.S.I., Sir B. Franklin, K.C.I.E., G. W. R. Hay and P. W. Sutherland. *Colonels:* C. W. Carr-Calthrop, W. E. Cates, D. E. Hughes, and G. S. Sutherland. *Lieutenant-Colonels:* C. Adams, E. Bovill, Sir H. H. R. Charles, K.C.V.O., E. F. Drake-Brockman, P. J. Freyer, W. Gray, Sir A. S. Lethbridge, K.C.S.I., D. P. MacDonald, J. Moorhead, W. Owen, P. D. Pank, T. H. Pope, C. J. Sarkies, A. E. R. Stephens, C. L. Swaine, W. H. Thornhill, J. F. Tuohy, and A. C. Younan. *Majors:* W. H. Caldwell, J. T. Calvert, R. H. Castor, L. F. Childe, J. K. Close, F. C. Clarkson, G. F. W. Ewens, T. W. A. Fullerton, C. R. M. Green, S. H Henderson, C. A. Johnston, A. H. Nott, W. H. Orr, H. W. Pilgrim, H. A. Smith, and E. Wilkinson. *Captains:* H. R. Brown, Young A. W. Cook, H. M. Cruddas, J. D. Graham, R. L. Hagger, W. G. Hamilton, J. H. Hugo, D.S.O., D. C. Kemp, W. H. Kenrick, A. Miller, W. J. Niblock, E. L. Perry, M. B. Pinchard, N. R. J. Rainier, J. W. F. Ralt, F. A. Smith, L. P. Stephen, T. H. Symons, R. G. Turner, and F. N. White.

The guests were:—Sir Richard Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London; Inspector-General H. M. Ellis, Director-General, R.N. Medical Service; Surgeon-General A. H. Keogh, C.B., Director-General, A.M.S.; Mr. Austin Low, Dr. Dawson Williams, and Dr. S. Squire Sprigge.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Huddersfield.—A very comprehensive scheme for dealing with infantile mortality is now in operation in Huddersfield where a fee of 1*s.* is paid for every birth notified to the medical officer of health within 48 hours of its occurrence. In November and December of 1905 there were 142 notifications received, there being during the same two months 380 births. The present scheme embraces both official and voluntary helpers, the borough being divided for administrative purposes into nine districts. These districts have been allotted to two official lady health visitors who are, it is important to note, both duly qualified medical practitioners. Acting under these health visitors, and of course under the general superintendence of the medical officer of health, are 16 lady superintendents, the number in each district ranging from one to five, while under these superintendents, who are all voluntary workers, are 82 lady helpers, also voluntary, the number in each district varying from two to 20. With a scheme such as this much good should result assuming that there is an efficient and tactful organisation. The newly born children are visited as soon as practicable by one of the qualified health visitors who gives advice and leaves simple and helpful literature. On every Saturday each of the lady superintendents distributes the cases in her district among the lady helpers.

Metropolitan Borough of Battersea.—Dr. G. F. McCleary in presenting what will be his last annual report for this borough furnishes a table showing for each of the years 1896 to 1903 the number of deaths recorded on each day of the week from "overlying." It was found that by far the greater number of deaths were discovered on Sunday morning, a fact which suggests that the "overlying" was due in large measure to the influence of alcohol on the parents. Such deaths, as Dr. McCleary points out, should be had regard to in estimating the mortality due to alcohol. The relation of excess of alcohol to public health is by no means so remote as was once believed and the Battersea borough council is moving in the right direction in endeavouring to make known the deleterious action of alcohol in excess. As regards the Battersea milk depôt, Dr. McCleary reports that the death-rate among the children attending it was for 1905 105·7 per 1000, and he adds that the depôt children must by no means be regarded as a normal population, seeing that nearly 50 per cent. of them are taken to the depôt on account of ill-health.

Manchester Port Sanitary District.—We are glad to learn from the last annual report of Dr. A. M. N. Pringle, medical officer of health of the Port of Manchester, that the sanitary authority is endeavouring to obtain power to inspect the food-stuffs introduced into this country *viâ* the Manchester Ship Canal, and we trust that in future more attention will be paid to this matter by port authorities throughout the country. The subject is indeed of such importance that we would suggest the desirability of the attention of port sanitary authorities being called to it by the Local Government Board. Dr. Pringle adverts again in his annual report to the difficulty which obtains in securing reasonable forecastle accommodation for the crew of smaller vessels so long as the Board of Trade is content with such a small amount of cubic space per head and when the lighting of the cabin is often so bad that it is quite impossible to obtain really healthy and cleanly conditions. Yet these places being passed by the Board of Trade as fit for the accommodation of so many men it is impracticable, and in a sense illogical, for the port sanitary authority to

interfere. It is certainly regrettable that more attention is not paid to the sanitation of our floating houses at the time when the plans for their construction are being drawn.

City of Coventry.—The antivaccinationists in Coventry have not much cause for complaint in the matter of obtaining certificates of exemption seeing that for the last four years the applications have been granted in every instance. In Coventry 84 per cent. of the children born are duly vaccinated, 8 per cent. of those not vaccinated are accounted for by death before vaccination and 11 per cent. are accounted for by the number of exemptions obtained. Dr. E. H. Snell, the medical officer of health, draws attention to the fact that there are certain difficulties in connexion with the procurance of accurate death returns. In a case to which he refers a patient certified to have died from enteric fever was found, as the result of a necropsy held to clear up a doubt, to have died from another cause. It was found, however, that the certificate could only be altered by a statutory declaration and the payment of a fee and, as Dr. Snell observes, it seems unwise thus to handicap endeavours to procure accuracy of our death returns. The Registrar-General was appealed to and he suggested that the entry in the register might remain and that he would have the necessary correction made in the death returns. Clearly there are objections to altering the actual entry in the register without some legal formality. Dr. Snell states that during 1905 six deaths were registered in Coventry as due to chronic alcoholism and 13 to cirrhosis of the liver, while the deaths of five infants were brought about by "overlying." In his view "the actual effect of alcohol on the death roll is one which it is impossible to ignore," and he adds that the fact of the death certificate having to be delivered by the medical attendant to the relatives and by them given to the registrar is liable to introduce a somewhat lenient aspect into certification generally. In connexion with the question of alcoholic excess, Dr. Snell reports that some of the inferior public-houses in Coventry are in fact, though not technically, common lodging-houses and that considerable overcrowding takes place in them. In one such house where upon the common lodging-house standard there would have been 13 beds 21 beds were found and, in addition, there were 13 persons who, having no beds, had slept presumably on the floor in the kitchen and passage. Obviously some systematic control of places such as these is desirable.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9100 births and 3924 deaths were registered during the week ending June 16th. The annual rate of mortality in these towns, which had steadily declined in the eight preceding weeks from 17·3 to 12·9 per 1000, was again 12·9 last week. During the first 11 weeks of the current quarter the death-rate in these towns averaged only 15·3 per 1000; in London the mean rate during the same period did not exceed 15·2. The lowest death-rates during last week in the 76 towns were 5·1 in Willesden, 5·2 in East Ham, 5·4 in Hornsey, and 6·9 in Bournemouth; the rates in the other towns ranged upwards to 18·8 in Warrington, 19·4 in Liverpool, 20·6 in St. Helens and in West Hartlepool, and 21·4 in Middlesbrough. The 3924 deaths in the 76 towns showed an increase of but 17 upon the exceptionally low number returned in the previous week, and included 370 which were referred to the principal epidemic diseases, against 441, 408, and 375 in the three preceding weeks; of these, 148 resulted from measles, 77 from whooping-cough, 63 from diarrhœa, 39 from scarlet fever, 33 from diphtheria, ten from "fever" (principally enteric), and not one from small-pox. The deaths from these infectious diseases were equal to an annual rate of 1·2 per 1000 in the 76 towns and to but 1·1 in London. No death from any of these infectious diseases was registered last week in Stockport, Northampton, St. Helens, York, or in 11 other smaller towns, whereas they caused death-rates exceeding 2·8 per 1000 in Liverpool, Manchester, Salford, Halifax, and Burnley. The highest death-rates from measles occurred in Halifax, Bradford, Huddersfield, Manchester, Salford, and Burnley; and from whooping-cough in Liverpool, Swansea, Walsall, Reading, and Warrington. The 63 deaths referred to diarrhœa showed an increase upon recent weekly numbers. Scarlet fever caused the highest proportional death-rate in Hastings and diphtheria in Halifax and Middlesbrough. The ten deaths referred to "fever" were fewer than in any previous week of this year. Seven cases of small-pox were under treatment in the Metropolitan Asylums hospitals at the end of last week, one new case having been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, June 16th, was 2677, showing a further increase upon recent weekly numbers; the 355 new cases admitted during the week showed a further increase of 11 upon those returned in recent weeks. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had steadily declined in the eight preceding weeks from 399 to 152, further fell last week to 142 and were 20 below the corrected average for the corresponding week in the four preceding years 1902–05. The causes of 45, or 1·1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner; in London the proportion was only 0·3 per cent. All the causes of death were duly certified in Manchester, Leeds, Bristol, Nottingham, Salford, Leicester, and in 50 other of the large towns. The proportion of uncertified deaths showed the largest excess in Birmingham, Liverpool, Bootle, Preston, Sheffield, South Shields, Gateshead, and Coventry.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·5 and 15·6 per 1000 in the two preceding weeks, rose again last week to 15·8, and exceeded by 2·9 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·0 and 14·3 in Leith and Aberdeen to 16·9 in Glasgow and 17·4 in Dundee. The 542 deaths in the eight towns showed an increase of seven upon the number in the previous week, and included 19 which were referred to measles, 19 to diarrhœa, eight to whooping-cough, five to diphtheria, five to "fever," two to scarlet fever, and not one to small-pox. In all, 58 deaths resulted from these principal infectious diseases, showing a decline of nine from the number returned in the previous week; they were equal to an annual rate of 1·7 per 1000, which was 0·5 above the mean rate during the week from the same diseases in the 76 English towns. The 19 fatal cases of measles exceeded the number in the previous week by five, and included 14 in Glasgow and five in Edinburgh. The 19 deaths attributed to diarrhœa were fewer by three than the number in the previous week; nine were returned in Glasgow, four in Edinburgh, and two both in Dundee and in Aberdeen. The eight fatal cases of whooping-cough showed a marked decline from recent weekly numbers, including, however, four in Glasgow and three in Aberdeen. Four deaths from diphtheria and three from "fever" were returned in Glasgow; of the latter two were certified as cerebro-spinal fever. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 95 in each of the two previous weeks, declined last week to 80, but exceeded by 17 the number returned in the corresponding week of last year. The causes of 24, or 4·4 per cent., of the deaths registered in the eight towns last week were not certified, the proportion of uncertified deaths in the 76 large English towns during the same week being only 1·1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 22·4, 20·2, and 18·4 per 1000 in the three preceding weeks, further declined to 16·4 in the week ending June 16th, a considerably lower rate than has prevailed in the city in any previous week of this year. During the first 11 weeks of the current quarter the death-rate in the city averaged 22·0 per 1000, against 15·2 in London and 17·5 in Edinburgh. The 119 deaths of persons belonging to Dublin registered during the week under notice showed a further decline of 15 from the numbers returned in recent weeks, and included seven which were referred to the principal infectious diseases, against seven and two in the two preceding weeks. Of these seven

deaths four were referred to diarrhœa, two to whooping-cough, one to "fever," no death being referred either to small-pox, measles, scarlet fever, or diphtheria. These seven deaths from infectious diseases were equal to an annual rate of 1·0 per 1000, the rate from the same diseases last week being 1·1 in London and 1·7 in Edinburgh. The 119 deaths in Dublin included but five of infants under one year of age and 41 of persons aged upwards of 60 years; the deaths of infants were exceptionally few, while those of elderly persons showed an increase. Four inquest cases and three deaths from violence were registered, and 50, or 42 per cent., of the deaths in the city occurred in public institutions. The causes of three, or 2·5 per cent., of the 119 deaths were not certified either by a registered medical practitioner or by a coroner, the proportion of uncertified deaths last week being but 0·3 in London and 4 2 in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon D'A. Harvey has been appointed to the *President* and lent to Deptford Yard, temporary.

ROYAL ARMY MEDICAL CORPS.

Major Francis A. Saw retires on retired pay (dated June 20th, 1906).

Surgeon-Major P. H. Whiston, Irish Guards, and Captain A. E. Hamerton join the London District for duty. Major L. E. A. Salmon assumes the duties of medical officer in charge of troops at the Citadel, Plymouth, and of recruiting at Mutley Barracks.

IMPERIAL YEOMANRY.

Lancashire Hussars: Surgeon-Major D. Harrison is granted the honorary rank of Surgeon Lieutenant-Colonel, (dated June 8th, 1906).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain (honorary Captain in the army) T. W. G. Kelly resigns his commission (dated June 8th, 1906).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Royal Warwickshire Regiment: Seymour Gilbert Barling to be Surgeon-Lieutenant (dated June 8th, 1906). 1st Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant G. B. Robinson to be Surgeon-Captain (dated June 8th, 1906). 3rd (Sunderland) Volunteer Battalion the Durham Light Infantry: Surgeon-Captain R. E. Beveridge to be Surgeon-Major (dated June 8th, 1906). 1st Sutherland (the Sutherland Highland) Volunteer Rifle Corps: Supernumerary Surgeon-Captain (honorary Lieutenant in the army, Surgeon-Captain, Army Medical Reserve of Officers) J. K. Tomory resigns his commission (dated June 8th, 1906). 20th Middlesex (Artists') Volunteer Rifle Corps: Surgeon-Captain F. S. Hogg resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated May 28th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Maidstone Companies: John Aldington Gibb to be Lieutenant (dated June 2nd, 1906). *Scottish Command:* Glasgow Companies: James King Patrick to be Lieutenant (dated June 8th, 1906).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain John K. Tomory, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated June 8th, 1906).

THE VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force, who have been duly recommended for the same under the terms of the Royal Warrant, dated July 25th, 1892:—*Western Command: Artillery:* 1st Cheshire Royal Garrison Artillery (Volunteers): Surgeon-Major Arthur Montfort Archer. 3rd Lancashire Royal Garrison Artillery (Volunteers): Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel Michael John Fox. *Scottish Command: Rifle:* 2nd Volunteer Battalion, The Royal Scots Fusiliers: Honorary Assistant Surgeon David Sloan. 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant-Colonel Thomas Philip.

THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

The King has sanctioned the following appointments to the Order of the Hospital of St. John of Jerusalem in England:—To be Knights of Grace: Surgeon-Major John Arnallt Jones, 2nd Volunteer Battalion, Welsh Regiment (from Honorary Associate), Deputy Inspector-General Theodore Julian Preston, R.N., and Major Thomas McCulloch, R.A.M.C.

DEATHS IN THE SERVICES.

Surgeon-General Theobold Ringer, I.M.S. (retired), at his residence, 20, Lansdown-terrace, Cheltenham, on June 14th, in his eighty-first year. The deceased was born at Clifton (Bristol) and received his medical education at Guy's Hospital. He graduated M.D. of St. Andrews and when he was 30 years of age entered the Indian Medical Service as assistant surgeon, being attached to the 7th Bengal Cavalry. He served during the Mutiny and was present at the sieges of Cawnpore and Delhi Since being knocked down by a motor-car at Tewkesbury four years ago he has always been in feeble health and had seldom appeared in public, though he continued to take a keen interest in the affairs of the town, of which he was one of the most highly respected inhabitants. The deceased was for many years a member of the Bristol and Gloucestershire Archæological Society and was a distinguished Freemason, having held the office of Deputy Grand Sword Bearer in the Grand Lodge of England and the same office in the Grand Lodge of Mark Master Masons. He is survived by his wife and one daughter.

THE ALEXANDER MEMORIAL PRIZE.

The prize of £50 and the gold medal of the Alexander Memorial Fund for 1905 has been awarded to Major F. Smith, D.S.O., R.A.M.C., for his essay on Syphilis in the Army, its Causes, Treatment, and Prevention. The essay sent in by Major H. C. French, R.A.M.C., was considered by the assessors to be worthy of commendation.

The subject for the next competition is Functional and Organic Diseases of the Heart in the Army, their Prevalence and Influence on Efficiency, their Causes, Suggestions for Preventive Measures, and their Treatment. The essay should embody the results of personal observation and research. Essays must reach the Secretary of the Prizes Committee, Royal Army Medical College, on or before Dec. 31st, 1906. They must have a brief motto and be accompanied by a sealed envelope similarly superscribed containing the name and address of the author. No essays should exceed about 20,000 words, exclusive of tables, which may be added in the form of appendices. The competition is limited to executive officers of the Royal Army Medical Corps on full pay. Professors and assistant professors at the Royal Army Medical College are not eligible while so employed.

ARMY SCHEMES AND SCHOOL CADETS.

What with the various schemes already in the field for Imperial defence and to that end for the maintenance and support of the army some plan can surely be arrived at which will commend itself to national support as likely to prove suitable to the needs of the situation. Whether Lord Roberts's plan is calculated to fulfil all these requirements or not there cannot, we think, be any doubt that some widespread instruction in the rudiments of military drill and in practice with the rifle would go far in doing so and would confer at the same time many physical advantages on those taking part in such duties—to say nothing of the influence on character in the increase of self-reliance, determination, and respect for authority. We are consequently glad to see that the movement is making such progress in our public schools. Meanwhile, and in another direction, the *Spectator* Experimental Company at Hounslow under Colonel Pollock is doing excellent work in showing how much can be accomplished by a well-directed course of military training.

A PROFESSOR OF MILITARY MEDICAL HISTORY AT THE MEDICAL STAFF COLLEGE.

Surgeon-General George Evatt, C.B., A.M.S., retired, sends us a plea for the appointment of a professor of military medical history at the Royal Army Medical College. He points out that every great soldier has taught the principle that military history is the greatest source of military knowledge and our correspondent would apply the same theory to

the medical side of the army. The cost of such a professorship would probably be about £800 a year. In addition to the giving of lectures the professor would no doubt find time to write a valuable work on the medical history of past campaigns, while his studies would include foreign campaigns and methods of foreign organisation. All this would, the writer thinks, immensely add to the efficiency of our Army Medical Service and the practical gain would be more than worth the cost.

ARMY MEDICAL REFORM.

"One Who Knows," writing from Bucks to the *Daily Express* on June 16th, says: "The Premier's refusal to appoint a medical officer to accompany the Army Service Corps officer on his tour of inspection among the American tinned meats packing houses is a specimen of the neglect of the Government to utilise, for the prevention of diseases, the medical skill the country possesses in the Royal Army Medical Corps and in the Volunteer medical services. Such neglect, as we know to our cost in the past, has been very expensive; the number of sick from preventable diseases has always greatly exceeded those wounded."

THE MAINTENANCE OF DISCHARGED SAILORS AND SOLDIERS.

A circular has been issued from the Local Government Board to boards of guardians giving particulars of the conditions under which pensions are granted to sailors and soldiers. While the Lords of the Admiralty state that they are unable to accept responsibility for the permanent maintenance of men who are invalided from the Navy the Army Council intimates that should there be any discharged soldiers in workhouses who are without pensions, or with small pensions, and who can be shown to be suffering from disabilities directly due to military service, their cases will always receive careful investigation on being brought to the notice of the Secretary, Royal Hospital, Chelsea, S.W.

SICK-BERTH AUXILIARY RESERVE.

A party of seven men of the Northamptonshire Branch of the St. John Ambulance Association arrived at the Royal Naval Hospital, Stonehouse, Plymouth, on June 9th, for a week's training in the duties of the sick-berth staff. The detachment should have numbered ten men but three members were detained at home through illness. Ten representatives of the Manchester branch of the same association arrived at the hospital on June 12th for training lasting a similar period.

THE "HOSPITAL ASSISTANT."

We have to acknowledge the receipt of some copies of a new Indian monthly medical publication, the first number of which made its appearance in January of the present year. The *Hospital Assistant*, as the new journal is called, is published at Kolhapur city, Bombay Presidency, and owes its existence to the enterprise of its editor and proprietor, hospital assistant Raghunath V. Bapat. The hospital assistants in India form a very numerous, useful, and widely distributed class of medical subordinates who are mainly employed in the Indian Government service. The aim and object of the journal seem to be twofold—namely, to establish a wider community of feeling among the hospital assistant class by representing and advocating their interests and views and, in the second place, by disseminating such medical knowledge and information as may be likely to prove useful to them in their professional work. Seing that these hospital assistants are, as we have said, widely distributed throughout India and that numbers of them have to serve at small native stations and villages the latter consideration has, or may hereafter have, an important bearing. The hospital assistant class is not in a position to subscribe to the more expensive medical and scientific journals and the price of the present publication consequently had to be as low as possible in order to be kept within their means. We recognise that any attempt to start a journal of this kind in India must be attended with many difficulties and shortcomings which later may, however, be fairly expected to disappear or to be overcome.

As we go to press we learn with deep regret that Lieutenant Forbes Manson Grantt Tulloch, R.A.M.C., succumbed on Wednesday at the Queen Alexandra Military Hospital, Millbank, to sleeping sickness contracted while investigating that disease in Uganda for the Colonial Office.

Correspondence.

"Audi alteram partem."

THE CAUSATION OF PLAGUE.

To the Editors of THE LANCET.

SIRS,—In *Nature* of April 16th there is a quotation from Dr. Theodore Thomson's report to the Local Government Board to this effect, "The part played by the rat in transmission of plague to man, although real, falls far short of the importance which has generally been attributed to it." As there is not a full report it would be useless for me to say much about Dr. Thomson's report, but this much is certain, medical experts on plague in plague countries are unanimous in blaming the rat and its attendant flea as the only cause of plague transmission.

I have just come from a plague distracted country and whilst there visited probably one of the most interesting scientific research laboratories in existence. I refer to the Plague Institute at Old Government House, Bombay. So far my visit there has been the most instructive and novel experience that has befallen me since travelling in the East. It was made doubly pleasurable by the kind and courteous treatment received at the hands of the medical authorities there who spared themselves not in showing everything connected with their epoch-making discoveries. A full report will be out by-and-by and the medical profession will find that plague depends on flea and rat. The experiments going on there now prove this conclusively and clinical experience backs up the laboratory results of the scientists. Until I paid a visit there I quite thought that Sir Patrick Manson's idea that plague might be got from, say, introduction into the system through walking with bare feet was likely; but the authorities at Bombay say "No," and they give as a reason that if this were the case the glands in the groin would be first affected. Experience, however, teaches that in some places where people walked about barefooted the glands in the arm were first affected, whereas in others, where they walked about shod, the groins were affected first.

Again, into a cage two rats were put; one was surrounded by fine gauze, flea-proof, the other rambled about freely in the cage. Infected fleas from plague rats were put into the cage. The rat left free sickened and died in a few days, the protected rat lived on and was quite well. Clinically, it was found that in certain cases where a person had been known to work through the day and leave about sunset no harm came but when the same person stayed on late into the night or slept on the premises he was known to take plague. This was explained because the flea was a nocturnal biter of man. The medical experts at this institute are therefore firm believers in the rat theory of plague. I was there at 1 P.M. when the carts with the suspected dead rats were brought in. At one table stood a series of dissectors and at another sat a body of microscopists. On asking if there was no danger of the dissectors getting the poison I was told they were all injected with the serum and this was a condition of service with everyone connected with the institution. There they stood cutting up the rats and by the appearance of the glands these macroscopists could tell better than the microscopists if the rat had plague or not. There was a friendly competition between the two and at the time of my visit the dissectors had so far the best of it.

In the flea experimenting room I noticed some few guinea-pigs running about loose. These were allowed purposely to do so in case any fleas escaped in order that the fur of the guinea-pig would attract the flea instead of the arms or legs of the attendants. The serum prepared here supplies the world and its benefits are only beginning to be realised. It is somewhat disheartening to an institution ready to turn out any amount of serum to find opposition to its operation even in high quarters. In a pamphlet published it was startling to see that in a village with a population of 2000, of every 100 not injected with anti-plague serum 65 took plague and 40 died, whilst out of every 100 inoculated 20 took plague and seven died. Now all this serum is made based on the theory of the rat and rat-flea being the sole cause of plague. The medical experts at Old Government House do not look on the plague as strongly infectious or contagious, their contention being that it requires to be injected into the system

and the creature who does this is the flea who gets the poison from its host, the rat.

I would take up too much space in your valuable columns were I to enumerate to you the whole ingenious process of preparing this plague antitoxin from beginning to end but should any of your readers travel towards Bombay they will miss a great treat should they not have the privilege of seeing how things are manufactured at this life-saving laboratory. Their opinions and results are the summing-up of a vast experience as well as a large number of painstaking experiments. That this is so one has but to look at the Bombay newspapers, where, at the time we were there, the average daily death-rate from plague alone was 150 persons. To realise that no theory is advanced here without numerous painstaking experiments one has only to see their nurseries of healthy guinea pigs; their large rooms filled with boxes of injected guinea-pigs; the room where fleas innumerable are nursed for experimental purposes; and adjoining thereunto the big shed where upon little boards rats are split open and labeled; near by busy microscopists—whose duty it is to find, if possible, the real and tiny cause of all the trouble—superintending, together with enthusiastic scientific medical experts—to see all this will convince the most sceptical observer that the part played by the rat in the transmission of plague to man is real and does *not* fall short of the import ance which has been attributed to it. At least, such was the idea impressed upon my mind from a visit paid to the laboratory at Old Government House, Bombay. I am, Sirs, yours faithfully,

THOMAS PICKTHORN THOMSON, M.B., C.M. Aberd.

C.S. *Duplex*, Suez, Egypt, June 1st, 1906.

THE CHARITABLE POSITION OF HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Most thoughtful minds in our profession will have pondered long and anxiously over the problem you present to your readers in the leading article in a recent number of THE LANCET.[1] They will agree with you that large numbers of people apply for medical and surgical treatment in hospitals who are able to remunerate the general practitioner adequately for such services as are needed in most of the minor cases which apply. It is proper to bear in mind that these institutions were in their origin founded as charities pure and simple, and endowed and financed to aid the sick and destitute poor unprovided for by parochial agencies. For this purpose the members of our profession most willingly joined in giving the best of their skill and service, free and without stint, both as to quality and time. The most talented and distinguished, our greatest physicians and surgeons and most eminent specialists, eagerly embraced the opportunity and vied with each other in order that they might place all that they knew at the service of the charity; and so noteworthy were the results of their work and so marvellous did their cures appear to all onlookers that a rage set in upon the public mind for all sick people, whether rich or poor, to share alike in the benefits thus provided without any professional fee or reward being required. At the same time, the public highly appreciating the good thus resulting, resolved to make these hospitals and everything connected with them absolutely healthful and sanitary; and all who have been concerned in the erection or renovation of hospitals will recognise with gratitude the great public spirit with which they have been financed in order that they may be brought as near to perfection as possible. This, however, only adds another nail to the coffin of professional income, for when those who *can* pay come to realise how much better off those who *cannot* pay are than themselves, and also that in addition they have to pay considerable fees for what the others get for nothing, it is natural to expect if their sense of conscience is somewhat dull and deadened that it would be likely for them to choose the course which seemed to them good and to excuse themselves on the plea of poverty which they were not morally entitled to raise.

That this has been done to an enormous extent is perfectly clear. In one institution I have heard that the authorities, suspecting considerable abuse, decided to make an independent inquiry into the circumstances of each applicant for relief, and as a consequence the following year the numbers diminished by over 2000 persons. We have in the medical profession some 30,000 or more practitioners who at great expense either to themselves or their friends or relatives have qualified themselves to administer to the professional needs of the British people; as a body they are not rich but rather poor men who seek by attention to their patients and skill and care to earn a moderate living and to pass their life in the useful practice of a charitable and generous profession. Many of our younger men depend almost for their existence at first upon the opportunities presented by this kind of practice for their being brought into notice in the neighbourhoods where they settle. This is a strong reason for the restriction of the abuse of charity. Can it be thinkable that the public sense of honour and generous feeling should be so debased as really to desire to take advantage of the self-sacrificing traits in the character and life of our profession by either condoning the abuses which abound or otherwise encouraging them? I trow not. But the subject is extremely intricate, has grown out of long-suffered abuses, and possesses in itself conditions which appear to need on all sides reconsideration and adjustment. The mixing-up of charity with pay is eminently undesirable and in this consists the foundation error. Every medical man delights to help forward the charity as a charity and the best in the profession are eager for the work, but money payment, combined with it under the cloak of charity, is calculated to inflict a monstrous injustice on the rank and file of the profession. There is a danger in the present day worthy of consideration. We have seen it exemplified in the teaching profession. The schoolmaster of the past has become municipalised and so may the medical man of the future be unless in time he fights strongly and wisely and with the whole strength of the combined profession for the preservation of his rights and liberty. Keep these hospitals for what they were originally intended and let payment make its own terms independently and unconnected with the charity. A combination for mutual aid might then be made on self-supporting principles which could be organised beneficially to professional interests for all who were willing to give such service. Such arrangements would leave the hospitals free for the treatment of all the more serious cases, operative or otherwise, and for which at the present time the extension of charity is still greatly needed. The hospitals would be relieved of a heavy expenditure and the prospects of the younger practitioners would be brightened. The abuse in regard to out-patients is one comparatively easy to be restrained. If every patient admitted were made the subject of investigation as to his earnings and financial position the swarm of applicants would soon diminish. It ought in every case to be a real investigation. Ordinary infirmary letters are in nine cases out of ten untrustworthy; those who give them know little or nothing about the applicant and accept his statements as to fact without attempt to verify. It would be useless to employ an infirmary official who has to collect the funds for the charity and his inquiries might be expected to be of a very perfunctory character. He would feel that close inquiry would give great offence, cause the loss of many subscriptions, and damage the interests of the hospital. It seems as though an inquiry altogether independent of the hospital was needed to check abuses which undoubtedly prevail, even in the best managed hospital work. Is it altogether unreasonable to hope that in a union of all the hospitals of the United Kingdom may be found a solution of many difficulties in connexion with their management, and, amongst others, the correction of their abuses. A great difficulty has arisen in many hospitals in this connexion, arising from the union of charity with part pay, from the very handsome manner in which these institutions are subsidised by the subscriptions of the working classes, sometimes amounting even to a fourth part of the working expenses of the charity. These good folks, when in work, are generally well paid and well able to remunerate their local practitioner, but very many consider the few shillings they subscribe annually entitle them to claim the gratuitous service of the institution. The outside medical men naturally look upon it as a hardship that they should be deprived of a large source of their living by the gratuitous service of their brethren; were the conditions grave and serious, necessitating operation and treatment in hospital, the case would be different and they would not

[1] THE LANCET, March 17th, 1906, p. 771.

object to what would generally in the circumstances be a very real charity.

But lately a new idea has been started—viz., that of catering for the rich and moneyed classes, and by this means working up a profitable business—in other words, appropriating the funds devoted to charity for the satisfaction of the needs of the well-to-do and so crowding out the poor for whom they were originally provided. This opens a very important and serious consideration. These hospitals are beautifully equipped, far in advance of anything to be found in the ordinary medical or surgical homes that are established for the reception of the wealthier classes. Moreover, the acknowledged skill and capacity found there freely given is exceptionally costly to purchase elsewhere, so that persons in more modest circumstances who are quite able to pay moderate sums for what they require and who desire to have the advantage of the greatest skill they can obtain in the conduct of operative measures are naturally disposed to take advantage of the open hospital door. To a certain extent nursing homes are open to this class of cases but as a rule they miss the conveniences, the perfect sanitary arrangements, the resident medical officers, and the efficient control of every department of service that is to be found in the larger and better equipped hospitals. They can have their own medical man and the consultant they select—of course a great point with many. In London and other large towns I daresay there are many suitable places of this kind, where members of the wealthier classes can be received and adequately dealt with, but for the lower grade the price is prohibitive. These nursing homes appear better suited for country places with a sparse population than for large towns. Why cannot the wealthy and all who are rich in this world's goods join together to produce for themselves and their neighbours and kinsfolk what they do for the poorest of the poor, start one as a pay hospital, sufficient in size for its probable requirements, with an adequate scale of resident staff, nursing efficiency, comfort, health, and perfect sanitation, and place it in every large town or great centre? It would be quite as legitimate for the operations of a company as the financing of hotels or hydropathic establishments, and with suitable tariffs arranged for different classes of occupants it would probably prove in the end a commercial success. A generous magnate, like Mr. Carnegie, desirous to initiate good works with his surplus capital, could hardly find a better way of starting a great and most beneficent movement than by founding on thoroughly good lines a pay hospital in some large and populous central place, preserving to every patient the right to be looked after by his own medical man and his own consultant at his own expense if he so desires.

This type of hospital, once well started, would command extensive imitation and similar institutions would gradually grow up around in all our large towns and would relieve the other class of hospitals of numerous costly cases that would then have no right or occasion to go there. It might at first seem to be a hardship for those carrying on the nursing homes that a movement of this kind should be created which would very probably render their homes unremunerative; but many are now carried on under difficulties and a great change of this kind would open up many opportunities for employment for them, with less of pecuniary anxiety and responsibility. I would say in conclusion that the requirements of the surgery of the present day have been so entirely modified and enlarged by the great discoveries and improvements in recent times that what has been found to be essential and necessary to promote the recovery and well-doing of the poor man is equally as necessary as for the rich. Rich men have provided in the past most liberally and handsomely for the wants of the poor; will they not also now be persuaded to take this matter in hand and provide also for *themselves*, for their own kith and kin, and for their less wealthy brethren, a refuge for the future in their times of greatest agony and distress? I am, Sirs, yours faithfully,

June 15th, 1906. SAMUEL KNAGGS.

FOOD INSPECTION.

To the Editors of THE LANCET.

SIRS,—Just now, when public attention is being directed to the question of the purity of food-supplies, it will probably be of interest to your readers to know something of what is being done with regard to the inspection of food sold in this country. Some seven years ago the report of the Royal Commission on Tuberculosis made several suggestions with a view to securing the purity of the food-supply and recommended that in future no person be permitted to act as a meat inspector until he has passed a qualifying examination. These suggestions and recommendations were embodied in a circular issued by the Local Government Board to the local authorities throughout the country. Following on this report the Royal Sanitary Institute, in order to facilitate the carrying out of these suggestions, established special courses of instruction and examinations directed to the qualification of public officers whose particular duty was the inspection of meat and food. The examinations for inspectors of meat and other foods are held in the principal centres of England and have by special request been extended to colonies where other examinations are held by the institute.

The syllabus for this examination was submitted to, and in general terms approved by, the Local Government Board of England, the Local Government Board of Scotland, and the Local Government Board of Ireland. The examination is made in every way as practical as possible and the candidates are examined on actual specimens of meat, fish, canned, and preserved foods. During the period that this examination has been held 280 candidates have come up for examination and 193 certificates have been granted. Many of those who have obtained certificates are now holding appointments in the principal towns and ports of the country. The President of the Local Government Board, in reply to a question in the House last week, called attention to the importance of efficient inspection of food-supplies and it is in order to make such inspection possible that the institute are urging the necessity of local authorities having for this purpose the assistance of competent and qualified officers.

I am, Sirs, yours faithfully,

J. LANE NOTTER,
Chairman of Council.

Royal Sanitary Institute, Margaret-street, London, W.,
June 14th, 1906.

THE FIRST GARDEN CITY.

To the Editors of THE LANCET.

SIRS,—The Garden City Company has been now in existence over two years and I think all those interested in the undertaking are pleased, and not a few of them surprised, at the progress which has been made towards the realisation of its object. That object was, as most of your readers are probably aware, to procure the building of an industrial and residential town on hygienic principles in accordance with the ideas promulgated by Mr. Ebenezer Howard in his book, "Garden Cities of To-morrow."

The company has acquired a site of over 3800 acres at Letchworth, near Hitchin. The Garden City has its own station provided by the Great Northern Railway, factories are at work, gasworks and waterworks are in operation, about 150 acres of building sites have been let, over 400 houses are built or in course of building, and we have already a population of over 1600. This by itself is, I submit, not a bad record for two years' work, but much has been accomplished in addition which I must not trespass on your space to describe. Our progress would, however, have been much more rapid if we had had more capital at our command. In some instances accommodation might profitably have been provided both for manufacturers and their workpeople had the capital been available. There are, moreover, at least 300 men at the present moment working on the estate who desire to live on it but for whom no accommodation can be found and the time has arrived when we have decided to come to the public for further financial support to enable us to push on with our enterprise and to clear the estate from the mortgages which still affect it. The capital of the company is £300,000, upon which the dividend is limited to 5 per cent. cumulative, all profit in excess going to the benefit of the town and its inhabitants. Of this about £134,000 have been allotted and the balance is being offered for public subscription.

Now, Sirs, there are multitudes of people of means in this country who are alarmed at the symptoms of physical degeneration exhibited by our town populations and who look to better housing and the redistribution of the people upon the land for remedy, and I am quite sure that they would not knowingly allow an enterprise such as ours to be

crippled for want of financial support, but claims are so many that people are not likely to invest their money in an undertaking offering only a moderate return unless they know that it is urgently needed and we are therefore obliged to make a direct appeal. In all human probability the Garden City Company will soon be a dividend-paying concern and I append a letter received from Mr. Peat—a member of the well-known firm of accountants, Messrs. W. B. Peat and Co., who act as auditors for the company—in answer to an inquiry from me as to how far, in his opinion, we were conducting this philanthropic enterprise on business lines. The success of the company hitherto has been largely due to the kind and generous support which the press has extended to the enterprise and I hope I am not presuming too far upon your kindness in asking you to publish this appeal for further capital.

Any further information with regard to the aims and progress of the company may be obtained from Mr. Thomas Adams, the secretary of the First Garden City, Limited, 326A, High Holborn, W.C., who will also forward prospectuses to all applicants. Yours truly,

RALPH NEVILLE.

[COPY.]

11, Ironmonger-lane, E.C., 1906.

DEAR SIR,—In reply to your letter I have no hesitation whatever in expressing my opinion that the First Garden City, Limited, is managed on strictly business and economical lines. Its progress has been remarkable. Ground-rents have been created, bringing in a substantial annual income. Gasworks and waterworks have been constructed and are owned by your company, and the nucleus of a considerable town is already in existence. I therefore conclude that the value of the estate by the developments I refer to has been substantially improved. The object the directors have had in view has been to demonstrate that a garden city can be run on lines which will yield a reasonable but modest return on the funds invested, thus combining philanthropic and useful effort with a fair prospect of profit. I consider that the scheme is on sound lines although no dividend has yet been forthcoming, nor could one have been reasonably expected in the present stage of the company's operations.

Yours faithfully,

(Signed) W. B. PEAT.

To the Chairman, First Garden City, Limited.

*** In our account of a visit paid to the Letchworth Garden City, which appeared in our columns last week, we gave substantially the same figures as those given by Sir Ralph Neville. We said nothing about the impending appeal to the public for subscriptions, but apart from dividends there is much in the scheme which the learned judge advocates that must commend it to the medical profession.—ED. L.

THE SUTURE OF INCISIONS OF THE ABDOMINAL WALL IN LAYERS WITHOUT BURIED SUTURES.

To the Editors of THE LANCET.

SIRS,—I gather from the letter of Dr. R. S. Rogers, published in your last issue, that the double-loop suture for abdominal incisions has suggested itself to several other minds. I should not be surprised to hear of still other surgeons who have made use of this method. The fact that it has been an original idea in certainly three independent mind centres seems to show that it may be useful and was worth describing and illustrating.

I am, Sirs, yours faithfully,

Loughborough, June 18th, 1906. J. B. PIKE.

GASTRO-ENTEROSTOMY.

To the Editors of THE LANCET.

SIRS,—Mr. Moynihan's letter of June 9th leaves me no option but to ask for a little more of your valuable space for what will in any case be my last contribution to this now distasteful subject. Mr. Moynihan has a good deal to say and more to suggest about my inexact date. It would have been simpler to state what the inaccuracy was so as to avoid the natural but mistaken inference in the minds of your readers. Mr. Littlewood's first operation was not performed at a *later* date than the one which I gave, as might be supposed from the manner of Mr. Moynihan's reference, but was two days earlier—that is to say, on the 22nd, and not the 24th, of May—so that the interval between Mr. Littlewood's first operation and Mr. Moynihan's was ten days and not eight.

While upon the subject of inaccuracies of this character it may be interesting to note that Mr. Moynihan himself is not impeccable. Robson and Moynihan's book on "Diseases of the Stomach" was published early in August, 1901. In it Mr. Moynihan states that he has practised excision of the mucous membrane in the operation of gastro-enterostomy for a period of 18 months. He now states that his first operation was performed on June 1st, 1900. One of his former letters seems to propose that if a statement goes long enough unchallenged its accuracy becomes thereby established. The establishment of this statement would, of course, put him well ahead of Mr. Littlewood in point of time, making, as it does, a difference of something like four months. Here it would seem as if Mr. Moynihan must admit either carelessness or a slip of memory. Possibly vulnerable opponents are not all on one side. At any rate, it is not easy to understand how he can have come to regard certain ideas as "original in his own mind," except on the supposition that in the lapse of time the clearness of his recollection has become blurred.

Mr. Moynihan has stated a fact with regard to the dresser's report of Mr. Littlewood's first operation of which I was not aware. Even if the report were accurate as it stands it could not weaken Mr. Littlewood's position as the first to advocate and to practise excision of the mucous membrane. But I have prevailed upon Mr. Littlewood to make a statement upon this matter which I quote:—

> I performed the operation exactly as I described it in my paper read before the Leeds and West Riding Medico-Chirurgical Society on Oct. 19th, 1900, and published in THE LANCET on June 29th, 1901.

Mr. Littlewood's communication was made within such a short time of his having devised the operation, practised it upon the cadaver, and performed it upon a patient that it can hardly be suggested that his memory was at fault. But perhaps if a dresser's inaccurate statement goes long enough uncorrected it is in the position of an unchallenged statement.

I come again to the clamps. Here especially does Mr. Moynihan seem to try to obscure the issue in a cloud of words. In his letter of May 19th he refers to Kocher, Doyen, and Sir Thomas Smith, and he quotes from Mr. W. A. Lane the quotation including the following, "have *curved*, flat blades," and "whether it is for closing a wound or attaching the part to the abdominal wall," but not a word about gastro enterostomy. The real point is this: Did Dr. Doyen, or anyone before Mr. Littlewood, make this special use of clamps in gastro-enterostomy? It is of no moment who invented the clamps, nor whether they were originally designed for hysterectomy, enterectomy, or any other purpose whatever. As a matter of fact, I believe the clamps Mr. Littlewood first used were Doyen's hysterectomy clamps. Probably Doyen's book is not easily accessible to a large majority of your readers and there is no doubt that the manner of Mr. Moynihan's reference to it leaves the impression that Mr. Littlewood's use of the clamps is a mere plagiarism. Mr. Moynihan does indeed make one definite statement about Doyen's book. He says that "Doyen used, and depicted the use of, the clamps in the operation of gastro-enterostomy to fulfil the special objects Mr. Ward enumerated." I have looked carefully through the book for this depiction and I fail to find any drawing or diagram illustrating the use of clamps in gastro-enterostomy at all, except here and there ordinary pressure forceps holding sutures. There is a drawing showing curved clamps used in an operation which is not gastro-enterostomy and the method of use has not the remotest resemblance to the parallel apposition of the straight clamps as in Mr. Littlewood's method, which has the distinguishing feature of entire novelty and originality and which, in my opinion, is the most important and valuable feature of the whole operation.

Mr. Moynihan's use of the word paltry is perhaps unfortunate in the circumstances. As I am not personally concerned with any claim for priority I need not express any views but we may reasonably infer that Mr. Littlewood agrees with Mr. Moynihan, although he goes a very different way about conveying his opinion. I have looked again at my letter in search of the "fantastic embroidery of insinuation" but I arrive at the conclusion that, like the high-flown phraseology with which Mr. Moynihan seeks to becloud the plain issue, it is entirely of his own manufacture. In addition to sundry digressions upon my ignorance, my intelligence, and my manners, Mr. Moynihan is good enough

to favour me with instructions as to the "bounds of courteous discussion." He apparently has a standard of his own. Perhaps he is not singular in this respect. At any rate, I am content to suffer by the comparison.

We are entitled to assume that the operation which we see Mr. Moynihan performing at the present time is the one to which, without any disclaimer, he has allowed his name to be attached. This is the operation which in Leeds we continue to regard as the Littlewood operation.

I am, Sirs, yours faithfully,

Leeds, June 18th, 1906. EDWARD WARD.

THE STYLE OF SPECIALIST.

To the Editors of THE LANCET.

SIRS,—I am an old general practitioner whose desire is to free himself from the arduous duties of miscellaneous practice. Is there any legal objection to my giving this intimation to my patients by styling myself on a door-plate "Specialist for diseases of the lungs and heart"? You may say that it is unusual. But times and methods and formulas are changing and medical men may, I would suggest, not immodestly change with them. I have lived long enough to have seen the time when specialists of all sorts were despised and suspected; now they are respected and trusted. This to show that tolerance of the unusual is induced by time and familiarity. I am, Sirs, yours faithfully,

June 18th, 1906. A. Z.

*** In spite of the logic, the unanswerable logic, of our correspondent's note we do not approve of his suggested innovation. "What Constitutes a Specialist?" would make an excellent subject for a prize essay upon medical ethics.—ED. L.

CARBOHYDRATE METABOLISM AND DIABETES.

To the Editors of THE LANCET.

SIRS,—I much regret that I should unintentionally have misrepresented Dr. Pavy's views as to the process of absorption of carbohydrate, but I venture to think that the statement made in the review was the natural interpretation of the language used in the book. Thus, with reference to the absorption of sugar from the intestine by the epithelial cells of the villi, Dr. Pavy writes:—

> The effect of modern research, however, is to show that it is by the instrumentality of cell action instead of by osmosis that the products of digestion pass into the system. ..... Absorption by cell action may be said to mean bioplasmic incorporation. The absorbed material passes into, and becomes a component of, the living matter. In other words, it is assimilated or made to form part of bioplasm in process of growth (p. 52).

The natural meaning of the above sentences appears to be that the sugar absorbed from the intestine is converted into the bioplasm of the epithelial cells; and as bioplasm is presumably living proteid it would follow that the sugar is converted temporarily into proteid. Dr. Pavy says in his letter[1] that the sugar is "assimilated" by the epithelial cells "into fat." This is surely an unusual employment of the word "assimilate." It is at least very doubtful whether the free fat (i.e., that recognisable by means of osmic acid) in a living cell can be spoken of either as forming part of the bioplasm or as actually assimilated.

I am, Sirs, yours faithfully,

June 16th, 1906. THE REVIEWER.

[1] THE LANCET, June 16th, 1906, p. 1715.

ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.—At the annual meeting of the above association held on June 12th, the following officers and members of council were elected:—President: Mr. Claude St. Aubyn-Farrer. Secretary: Dr. E. N. Féré, 12, Northampton-square, London, E.C. Treasurer: Mr. Sydney Stephenson. Council: Mr. H. R. Heather Bigg, Mr. F. E. Fenton, Dr. H. W. Fitzgerald Powell, Mr. J. G. Fitzgerald, Dr. A. J. Harries, Dr. C. O. Hawthorne, Dr. G. Hardyman, Mr. F. B. Lewis, Dr. Sidley Lightfoot, Dr. Alexander Morison, Mr. P. H. Parsons, Mr. Noble Smith, and Dr. David Walsh.

A DEFENCE OF THE CHICAGO STOCKYARDS.

(BY OUR SPECIAL SANITARY COMMISSIONER.)

THE agitation in regard to the Chicago stockyards is only beginning. Many an abortive effort will be made before any really satisfactory and permanent settlement can be obtained. Nor would this put an end to the questions raised. The evils exist in minor degree elsewhere, and in England especially an enormous work has to be accomplished before we can view the meat on our tables with feelings of absolute security. The private slaughter-house is a perpetual public danger. Chicago is only an exaggerated, monstrous illustration of what an amalgamation of private slaughter-houses may bring forth. Fortunately in Europe, and even in Great Britain, there are laws which would have prevented the development of such a wholesale abomination, but in detail and on a retail scale we are not exempt in this country from similar evils. That is why, in these columns and from time to time, efforts have been made to arouse public opinion. First it was sought to show how much better such matters are managed abroad, notably at Berlin and at Brussels, then quite recently at Lisbon. In each case the obvious moral that arose from the description given was the necessity of abolishing private slaughter-houses and establishing in their stead State or municipal slaughter-houses. But it is no easy matter to know how to proceed so as to cause the public to take action. The *Outlook* of June 9th says:—

> Almost every detail that has come out in the last week was made public a year and a half ago by THE LANCET, whose commission to Chicago slaughter-houses reveals details as terrible and convincing as Mr. Sinclair's, especially on the prevalence of tuberculosis and contact of meat with the germs.

There is not the slightest doubt that if the press in Great Britain had supported THE LANCET in respect of the Chicago abominations as it supported THE LANCET in times gone by in regard to the adulteration of food in this country, in regard to the spread of disease through laundries, and in regard to the contamination of wearing apparel brought about through the sweating system, the agitation that is now fairly started would have begun more than a year ago and the benefits to be derived therefrom would have been realised a year sooner. Perhaps it will be said that our criticisms were too moderate to create a sensation, though others certainly inferred that they were too violent to be credited. Among the comparatively few papers that did take the matter up is *Collier's Weekly*. This very popular and widely circulated American magazine especially appointed Major L. L. Seaman, M.D., LL.B, to proceed to Chicago and to make an impartial investigation into the methods of killing and canning at the stockyards. The results were published in the issue of *Collier's Weekly* of April 22nd, 1905—that is, three months after the publication of our reports—and were accompanied by the following editorial criticism:—

> JOURNALISM IS FRENZIED in at least as high a proportion as finance. Two temptations constantly face a newspaper. Any subject almost can be so treated as to please a certain class of advertisers and it can be so treated as to please a public that wants its article served hot. Take the Beef Trust as an example. Some of our advertising managers think we ought to be much more kindly towards it than we are. Certainly such kindness would increase our income. A large public, on the other hand, would like to have us throw bricks and scream. Mr. Sinclair's article published alone would have created much more of a sensation than it will produce as mitigated by the report of Major Seaman. The expert of THE LANCET is almost as extreme as Mr. Sinclair, so that there was at least a fair excuse for taking advantage of the opportunity to explode a bomb. Having some doubt, however, about the real facts, we induced Major Seaman to make the trip to Chicago. This incident will serve as an example of the policy mapped out for the conduct of this paper. We shall be guided no more by the hundreds of thousands of readers who love virulence towards great corporations than we shall be by the preferences of these corporations. This editorial is really in reply to letters too numerous for individual answers, some of which accuse us of venality whenever we use moderation towards a railroad or a trust, while the others describe as sensational anything which gives a chill to vested interests.

This is certainly a suggestive paragraph. Undoubtedly the Beef Trust is a great advertiser. The owners of the insanitary laundries and sweating dens which we denounced with so much success many years ago were not advertisers. Indeed, in regard to the former our denunciations led to the formation of a considerable number of so-called model steam and sanitary laundry companies which became extensive advertisers. Had the editor of *Collier's Weekly* been better

acquainted with THE LANCET he would have known that it does not strive to "serve its articles hot," that it has constantly to refuse advertisements as being opposed to the principles which it advocates, and that it exercises moderation in making denunciations that may injure individual interests. This moderation was shown even in regard to Chicago and the errors of the reports on the stockyards were errors on the side of moderation. Indeed, we evidently did not at the time insist sufficiently on the actual contamination of the food, especially the canned food.

On the other hand, *Collier's Weekly* was particularly unfortunate in selecting to make a counter investigation a gentleman who evidently was quite ignorant of the technique of the abattoir question. This ignorance is so fully displayed by his own words in his own report that at the time of its publication it did not seem worth while answering. The impression conveyed by Major Seaman's report that he cannot have known anything about the technicalities of the subject was subsequently confirmed in the columns of *Collier's Weekly* itself. In the issue of March 24th, 1906, there is a letter from Mr. Upton Sinclair describing how a New York publishing firm sent their attorney to Chicago to investigate the whole question and this attorney learnt

in the course of an interview with a man who was until recently the head of the Government Bureau of Inspection in Packingtown, that Major Seaman had spent but 24 hours in Chicago and but half an hour in the packing houses, and that he got the greater part of his information from a conversation with this former inspector! Major Seaman's article, you will remember, was in refutation not merely of my statements but also of those of the Special Correspondent of the London "Lancet," a man who had made the subject of slaughter-houses a life-long study. As far back as 1892 I can show you articles which he had published in the "Lancet," dealing with the municipal slaughter-houses of Belgium and Germany. After spending several weeks laboriously examining every corner of Packingtown he was refuted by a man who spent half an hour there and showed in every line he wrote that he had never been inside a modern abattoir in his life.

It seems somewhat superfluous after quoting this passage from Mr. Sinclair's letter to make any further observations. Major Seaman, however, is not alone in adopting a point of view which, we maintain, is as false as it would be mischievous if generally endorsed. Major Seaman says:—

The reason why the killing takes place on the upper floor of the buildings is because labour-saving methods are necessary and it serves the purpose of quick distribution and saves the expenditure of labour in disposing of the products by gravity and thus making the delivery of the finished products on the ground floor to trains and wagons a simple matter.

Really, on re-reading this passage the suspicion arises that after all Major Seaman is perhaps a friend of reform in disguise. Certainly, the above passage might have been written the better to destroy the packers. First, there is not a word to show that killing animals on the upper floors of buildings is more humane and more sanitary; that it is easier to ventilate and to keep clean upper floors of big buildings; and that when the animals are taken up to such a height they are not so likely to be terrified or to realise that they are going to be killed. Arguments of this description, were they possible, would apply, but no such reasoning is attempted. Instead of hygienic explanations we are told, and this as if it were a dogma, that "labour-saving methods are necessary." Who, we should like to know, said they were necessary? If these methods were necessary for life-saving reasons the argument might count; but instead of demonstrating that these methods confer greater security we are told about quick distribution and the facilities of getting the finished article into wagons. What can all this have to do with the danger of the diffusion of pathogenic bacteria? How does the "disposal of the products by gravity" insure greater cleanliness? Obviously in all this there is no care, no thought, no desire for anything else but profit; labour-saving methods can have no other object. By making it quite clear that profit is the only end pursued Major Seaman renders a great service and formulates a terrible accusation against the stockyards. He must know perfectly well, as everyone knows who thinks over the matter, that the first necessity of life is food, not profit. Sanitary laws, laws against adulteration, legislation in all times and countries, have placed the primary necessities of existence in the first rank; the question of profit only comes afterwards and if necessary it must be foregone altogether. Nor is this latter sentence merely a fine-sounding phrase. Profits have been abandoned in many cases. For instance, there was a time when it was ardently urged that profit should be made out of the disposal of sewage. People advocated the maintenance of the cesspool, pail, or the bucket systems because their contents might be profitably converted into manure. But the water-carriage system was adopted because it is healthier and cleaner, though, as a rule, it involves the complete loss of all the manure and instead of profit entails a very heavy outlay. No one, however, stopped to consider the interests of the dealers in *poudrette* or human guano when the far more important interests of the health of the entire community were at stake. Yet if it is necessary to dispose of sewage in a satisfactory manner surely it is quite as important to see that the food-supply shall be clean and wholesome. To suggest that the loading of wagons more or less rapidly or easily can possibly be adduced as a sufficient reason for killing animals on the third floor of a building in defiance of all laws of health and cleanliness is to invite measures of repression against persons thus devoid of all sense of duty and responsibility. When Major Seaman writes in this manner he seems to be hitting the Beef Trust under the belt and profiting by his position as its supposed friend to smite it harder than anyone else does. Then Major Seaman says:—

It would be absolutely impossible to have these slaughter-houses on the ground floor and in abattoirs as they exist in German and other European cities, where the product handled is comparatively insignificant in proportion to that handled in Chicago.

This is a handsome testimony to the accuracy of our reports, for we have insisted over and over again on the one great and condemnatory fact that, though many thousand animals are killed every day in the stockyards, there is no such thing in the technical sense of the word as a slaughter-house or abattoir throughout the entire premises. Of course, the fact that many more animals are killed at Chicago than elsewhere increases the necessity of enforcing the most elaborate precautions and of constructing modern abattoirs in the technical sense of the term, as they alone afford guarantees of perfect sanitation. If in the smaller establishments of Europe it is judged necessary to kill only on the ground floor and on watertight concrete flooring, with the maximum of air and light streaming in from all sides, such a necessity naturally increases with the amount of "product handled.' Therefore nowhere in the whole world are ground-floor abattoirs replete with every sanitary improvement more urgently needed than at Chicago.

Some of the continental abattoirs are not, however, such insignificant establishments as Major Seaman would infer. As a military man he should have been aware that on the continent the abattoirs must be ready for a contingency which happily is unknown in the United States of America. With war a mobilisation of two million troops in the course of a few days has to be foreseen and provided for at the abattoirs. The war in Cuba was but a small picnic as compared to what the mobilisation of the French and German armies would imply. Indeed, the autumn manœuvres in these countries are bigger undertakings so far as the provisioning with meat is concerned. Yet it was precisely in consequence of the foulness sent from the Chicago stockyards to the American troops in Cuba that the first denunciation of the Beef Trust was made. Everyone by this time has read the testimony given by President Roosevelt himself. As Lieutenant-Colonel of the First United States Volunteer Cavalry he said: "The canned roast beef was utterly and hopelessly unacceptable. I should say that, roughly, not a fifth of it was consumed. The cans, when opened, would show usually on top what looked like a layer of slime, a very disagreeable looking substance. The beef inside was stringy and coarse. It was like a bundle of fibres." Mr. Roosevelt added that "the great majority of the men if put upon it for two or three days would become sick."

A telegram from the New York correspondent of the London *Daily Mail* caps this statement by the following:—

Attorney Brady of Chicago says a boy named Kearney lost his arm in a grinder in 1898 when the firm employing him had a contract to supply beef to the army engaged in war with Spain. The foreman refused to allow the machinery to be stopped at the moment and the arm was canned with the beef sent to the troops.

It is really quite cruel on the part of Major Seaman to compare the Chicago stockyards to the German abattoirs where provision is made for military purposes. If anything similar to the above were to occur to the German army during war time and the Chicago magnates were managing the German abattoirs, how many of them does he think would be brought before a drumhead court-martial and shot offhand. But Major Seaman's hits do not cease here. In regard to trichinæ he confirms our report, for he speaks of the women microscopists, "whose

duty it is to search exclusively for trichinæ in pork, through the examination of specimens from carcasses intended solely for export to Germany, France, Austria, and Denmark." He further admits that this was done because the foreign Governments insisted upon it and that the people of Great Britain and the United States eat the pork that contains trichinæ. He also recognises that there is no place for the workmen to rest and to take their meal in comfort at midday and acknowledges that "little is to be said" on this matter, an expression which might be taken to mean that such neglect is wholly indefensible. Then follows the question, "Are the stockyards unsanitary?" and this receives its answer in the shape of five accompanying photographic reproductions which conclusively indicate how absolutely impossible it is to maintain cleanliness in such buildings with their innumerable rafters, dark corners, and angles. The photographs also show the meat lying on the dirty floors.

Finally comes the most crafty hit of all. Major Seaman admits that "light is excluded in many departments" and indulges in the joke that darkness has the advantage of keeping the flies away, but he says these places are well ventilated because Chicago is known to be a "windy city." He adds that "the buildings in the stockyards are emphatically open to 'the four winds that blow.'" This must be meant for a sarcasm. Major Seaman must know that there is no ventilation provided at the stockyards. That in the absence of ventilation it may be possible to open some doors and windows without creating too keen a draught when the air is still. But the more violent the wind the more certain it is that the doors and windows will be closed. Thus the fact that the stockyard buildings are exposed to the four winds that blow confirms our affirmation that they are not efficiently ventilated, yet it is to the United States of America that we are indebted for one of the best text-books on ventilation. Before venturing to deal with so highly technical a matter as ventilation Major Seaman would probably have rendered himself acquainted with the work of his colleague, Surgeon John S. Billings of the United States Army. In this standard work on "Ventilation and Heating" Dr. Billings says that to prevent the same air being retreathed air must travel up or down; therefore, and apart from the question of intolerable and dangerous draughts, doors and windows producing horizontal currents of air stand condemned. Then Dr. Billings insists that good ventilation is expensive. If Major Seaman really meant that there was good ventilation within the stockyard buildings he would have described the mechanical contrivances; the means of preventing draughts by the extensive diffusion of air inlets, the force of the fans, the velocity at which the air travelled, and, above all, the amount of money that had been spent. Such buildings would be as difficult to ventilate as a coal-mine and would require equally elaborate and expensive machinery.

Then Major Seaman admits that "in all the places where animals were dressed after being killed there was more or less steam, more or less odour, and not as much light and ventilation as on the killing floor. The removal of viscera and separation of the parts for tankage is dirty work." Now this is precisely the state of things that does not obtain in a model abattoir and the only excuse given for its existence at Chicago is that "the stockyards business in no way relates to, or has any correlation with, an art gallery or with any other refinements of civilised life."

Here, again, we have an absolute and fundamental misconception, for it is precisely in the preparation of food, more than in anything else, that the refinements of civilised life are necessary, even before the science of bacteriology came to give us the reason why this was instinctively understood. All that the architect can imagine, that the engineer can do, that the mechanician can invent, that the chemist can demonstrate, that the bacteriologist can discover, that the veterinary surgeon can desire, and that the medical man may deem necessary, must be taken into consideration and brought to bear in the construction of the places where food is prepared and where cattle are housed and killed for food. If such a combination of art, science, and ingenuity does not constitute the refinements of civilised life then we are at a loss to understand the meaning of these words. But we are also at a loss to understand Major Seaman's article and are, as indicated above, half inclined to believe that his pretended defence of the Chicago stockyards was intended as a huge satire. In any case he has made a point of confirming most of the accusations brought forward in our report on the subject and with this we can rest well satisfied.

MONT ESTORIL.

IN the Section of Hygiene at the Fifteenth International Congress of Medicine Dr. Dalgado spoke very eulogistically of the climatic and hygienic advantages of Mont Estoril. Our Special Sanitary Commissioner writes:—There can be no doubt that Dr. Dalgado made out a strong case for the climate. As for the sanitation, it is not easy to find on the continent places that respond to the British ideal nor are there many such perfectly drained health resorts in Great Britain itself. For the moment the principal safeguard rests in the fact that Mont Estoril is neither a town nor a village. It is a gentle slope on the sea shore, where a casino, two large hotels, and a certain number of villas have been built. These dwellings stand in their own grounds and the palm trees, the flowers, and the semi-tropical vegetation that ornament their gardens impart a great charm and interest to the place while testifying by their luxuriance to the warmth of the climate. A photograph which I took from my hotel bedroom window gives some idea of the open space and vegetation enjoyed just where there are the most houses (Fig. 1). That a place with so few houses and inhabitants should have any sort of public sewers and a public water-supply speaks well for its future. More money, more time, and a more extensive knowledge of

FIG. 1.

View from hotel window at Mont Estoril.

FIG. 2.

The bay and town of Cascaes, with the avenue of palms and the old fort to the left.

what is needed will all have to be brought to bear before any very large number of people will go to winter at Mont Estoril; still, it is a place with a future. Dr. Dalgado, I may explain, has retired from practice and is, for the sake of his own health, in search of a good climate. In speaking so highly of Mont Estoril he had no other material interest at stake than that of convincing himself as well as others that in selecting Mont Estoril for his winter quarters he has made a wise choice. As I was there during the Easter holidays I could not find anyone capable of giving me any technical information in regard to the sanitation of the place. The hotels were very clean and seemed well drained. The place might be considered somewhat dull but there are beautiful walks in the neighbourhood and the little town of Cascaes with its old fort is most picturesque (Fig. 2), as also is the celebrated *Bocca do Inferno* which is close at hand. It is, however, necessary to have a rough sea so as to appreciate its terrors. Undoubtedly there is much to be said and to be done not only in regard to Mont Estoril but in respect of many other places in Portugal which might become popular health and holiday resorts.

From Mont Estoril to Cascaes there is an excellent high-road that skirts the sea shore and passes in front of the villas built on the top of the sandy hill and low cliffs. Many of these dwellings, by reason of their fantastic architecture, add to the interest of the walk. The O'Neil residence notably is a revival of old Portuguese architecture built at the end of a creek with castellated towers, a bridge in front, and the sea running to the basement where there is a water gate to the villa or perhaps it might be called a mansion. As this road runs from west to east it is fully exposed to the sun and the rays through the clear atmosphere seemed to me dangerously hot. It would be imprudent for persons who are not accustomed to the southern sun and are not well sheltered to walk along here rapidly as if they were in England. Where there was shade as well as a slight sea breeze the air was most enjoyable and seemed distinctly more invigorating than that experienced on the coasts of the Mediterranean. The people who pass to and fro are very polite but there is a tendency to beg on the slightest pretext. As yet on this sea coast there is but a scant population so that drainage problems for the time being have not assumed very serious proportions. Still, it would seem that the sanitary accommodation in the houses of the poorer people is inadequate. In the passages under the railway line and in other dark and retired places there is evidence that a considerable number of people have not the necessary closets at home. This filth also testified to the inefficient organisation of the scavenging department by the local authorities. If Mont Estoril is to become a popular resort for the Americans and English this is a matter that must no longer be neglected.

What might be called the Portuguese Riviera consists of Mont Estoril which has the greatest claim to be considered a health resort; then there are the villages of Estoril and of S. João d'Estoril and the little town of Cascaes. At the last place there is a bay where some fishing boats cast anchor and a fine old fort stands on the rocks that extend into the sea. Under the walls of the fort there is a beautiful avenue of palm trees, where cool shady seats command an extensive view of the bay and the coast line. Within the fort there is a royal residence where the king comes during the hot summer months. Beyond Cascaes the cliffs become more picturesque and more wild but the position is more exposed and less suited for residential purposes, especially in the winter.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Waterworks Committee and Health.

THE waterworks committee of the Manchester corporation passed a resolution a short time since to the effect that it was undesirable at present to extend the consumption of water in connexion with the extension of the water-closet system. The reasons given were, "the increasing demand for water in the city and the district of supply, and the fact that the third pipe from Thirlmere will not be completed for several years after the work of laying is commenced." It amounted to this in fact, that they could not spare the water or rather that they did not wish it to be used for the extension of the water-closet system. The consumption of water has grown enormously of late years, so that Sir Bosdin Leech, chairman of the committee, was no doubt justified in laying the matter before the council. It appears that the chairman of the cleansing committee had intimated that in connexion with the change from middens and pails to the water-closet system between 2,000,000 and 3,000,000 gallons a day would be wanted. 20 years ago Manchester consumed daily 20,000,000 gallons. After the Parliamentary struggle over Thirlmere the consumption was fixed at 25,000,000, while to-day it is 31,000,000 gallons. Sir Bosdin Leech estimates that if water-closets were universally adopted in Manchester the consumption would be 36,000,000 gallons and, instead of stopping at a third pipe, a fourth would be wanted. Whatever may be thought of these anticipations there is no doubt that the bringing of another pipe from Thirlmere will be a costly matter, variously estimated at from £600,000 or £700,000 to £900,000. A reservoir is also being constructed at Heaton Park which will cost £600,000. This shows that there is some ground for the temptation to restrict the output. It has become a terribly costly matter to supply the primitive needs of great urban populations and pure water is rapidly becoming a most expensive beverage. But, as Mr. Fildes, the chairman of the sanitary committee, said, this proposal to restrict the use of water-closets had been brought up ever since he had been in the council. In 1892 the council went thoroughly into the matter and found that the high death-rate was very largely due to the midden system. Gradual conversion into closets has been going on for some years but two-thirds of the population still live under what has been described as "this horrible condition." "London, Liverpool, Glasgow, Edinburgh, and other towns had entirely abolished the system under which a great part of Manchester suffered," and it was amazing that this retrograde suggestion for saving water should be brought forward. In the end the proposal of the waterworks committee was rejected by a large majority. This decision should be welcome in the poorer districts of Manchester.

Economy in Bath Water.

As bearing on the Manchester water-supply a remarkable statement was made at a Local Government Board inquiry at Wigton some days since by the inspector. In speaking of the large quantity of water used at the public baths, he asked why they did not filter the water and use it over again, saying that it was done in Manchester and other places, and he was told that in one of the Manchester baths the same water so treated had been in use for a year without being changed. It would be interesting to have the baths committee's report.

Food Inspection at the Port.

At a meeting of the Manchester city council on June 13th the action taken a month ago as to the application of the port sanitary authority for a provisional order for food inspection at the port was confirmed. The council then asked that the application should be suspended till all the ports were put on equal terms. The port sanitary authority would not accede to that request, so Parliament is to decide. A Bill favoured by the port authority will shortly come before the House of Commons for second reading and its rejection will be moved. The Lord Mayor said that all they asked for was that Manchester should be placed on an equality with other ports. Manchester would not object to any measure, "however stringent or severe," so long as it applied to all ports without exception. This position certainly seems fair. If the inspection order were enforced here and not elsewhere Manchester might get less and the other ports more objectionable food, but the total importation into the country would probably be unaffected.

Filthy Milk-cans.

Some distinction may be drawn perhaps between *pure* milk and *clean* milk. The former, of course, implies the latter, but there is as much difficulty in obtaining clean milk—free, that is, from common dirt—as milk that is chemically pure. It is indeed difficult to prevent its contamination, for it is so ready to take to itself when exposed everything it ought not. Anyone who has seen a well-managed milk farm knows how scrupulously clean all the cans and other utensils have to be and the trouble involved in the scalding of the different vessels used. Knowing all this some sympathy may be felt with the Cheshire

farmers in the neighbourhood of Runcorn, one of whom, at a meeting of the Runcorn rural district council a week ago, stated that the Manchester and Liverpool authorities sent the milk-cans back to the farmers in a condition not fit to receive milk. In such weather as we are having, he said, "when the lids were taken off the cans were not fit for a human being to put his nose to," a statement that may be believed. The cans should be sent back clean and well rinsed. To those farmers who do their best to send clean milk to the towns the neglect of the authorities as to this matter is felt as a grievance, giving point to the complaint that "the experts paid no attention to this; it was all the farmers." When so much is expected from one side it is only fair that the town authorities should facilitate and not make more difficult the supply of pure milk.

June 19th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Carnarvonshire Combined Sanitary District.

THE combined sanitary district of Carnarvonshire and the adjoining counties was formed by the Local Government Board in 1876 under Section 286 of the Public Health Act, 1875. There are now included in the combination 14 urban and 11 rural districts. In his recently issued annual report, the medical officer of health (Dr. Peter Fraser) draws attention to the high rate of infantile mortality which in 1905 was equal to 132 per 1000 births, the rural districts as a whole having as high a rate as the urban. A striking exception is in the case of Colwyn Bay where the rate was only 84 per 1000 births. Dr. Fraser considers that among the changes in procedure which would be of service in dealing with the existing dangers to the health and life of infants are to be included the registration of stillbirths, the more prompt registration of births, and the making of registrars of births and deaths officers of the sanitary authorities. Special attention appears to have been given during the year to the condition of the cowsheds and dairies and it is satisfactory to find that 17 of the 25 sanitary authorities in the combined area have adopted regulations under the Dairies, Cowsheds, and Milkshops Order. Dr. Fraser points out the extreme importance of prompt isolation and treatment in hospital of cases of infectious disease and suggests that a representation under the Isolation Hospitals Act, 1893, should be made to the Carnarvonshire county council by one or more of the sanitary authorities unprovided with a suitable hospital requesting that a hospital district or districts should be declared. The death-rate from tuberculosis was high. In the whole of the combined district with a population of 170,000 it was 2·3 per 1000. The result of investigations made into the surroundings of houses in which tuberculous disease was known to exist showed that in 8 per cent. of the houses there was some sanitary defect such as dampness, insufficient cubic space, or insufficient lighting and ventilation. In 25 per cent. of the cases there was found to be a predisposition to the disease in the family.

First Aid in Colliery Districts.

Ten or 12 years ago there was a great deal of interest displayed in connexion with the ambulance classes which were held in the colliery districts of Glamorgan. The technical instruction committee of the county council arranged for many of the classes in first aid and at the local Eisteddfodau prizes were given to competing teams. For a few years the enthusiasm fell off but it has been revived in the Rhondda district through the presentation by Sir Charles Warren, K.C.M.G., of a shield to be competed for by ambulance teams composed of residents in the two valleys. The first competition was held on June 9th, when Sir Charles Warren was present. 11 teams competed, each consisting of 16 members. They were nearly all connected with one or another of the collieries in the district. The winners came from Ferndale, the boys' team from the same district being placed second and the team from the adjoining district of Maerdy was placed third. The importance of having in every district of a colliery properly trained men able to give first aid cannot be exaggerated. A fall of roof or a crush against the wall of a narrow passage are common causes of accident and it is not difficult to understand how readily a slight injury may be turned into a serious one through ignorant or careless handling of the injured person while he is being conveyed from the colliery workings to his home or to the hospital.

The Accommodation for Crews in British Ships.

In his annual report to the Newport (Mon.) port sanitary authority Dr. J. Howard-Jones again draws attention to the unsatisfactory accommodation provided for the crew in many of the new British ships. He contends that this is in great measure due to the keen competition which obtains in the merchant service so that vessels are designed to carry as much cargo as possible and the crew's quarters are not sufficiently considered. After the vessels have been passed by the Board of Trade and arrive at a British port during a voyage they come under the observation of the port sanitary authority and Dr. Howard-Jones says that it is not at all an uncommon occurrence for the latter to insist upon structural alterations in order to remedy nuisances soon after the vessel has been passed by the Board of Trade. He thinks that this unsatisfactory state of affairs could be avoided by the appointment of some recognised authority responsible for making regulations with respect to such matters and that there would also result better accommodation for the crew without any extra cost to the owners.

A Memorial to Henry and Sarah Fielding.

A cordial welcome was extended to Sir A. Conan Doyle who visited Bath on June 15th for the purpose of unveiling a mural tablet which has been erected by the corporation to commemorate the fact that Henry Fielding, the author of "Tom Jones," and his sister Sarah, the writer of "The Adventures of David Smith," lived there in the eighteenth century. There was a large attendance at the unveiling ceremony. Subsequently, at the Guildhall, Sir Conan Doyle was entertained at luncheon and was presented with eight volumes of Henry Fielding's works published in 1771. In replying to the toast of the day he made some interesting references to Fielding's literary work and connexion with Bath.

The Workmen's Compensation Act.

Under the Workmen's Compensation Act a claim was brought by a farm labourer at the Bristol county court on June 13th against a farmer at Yatton. The applicant, who was employed by the defendant, was born without the sight of one eye, and in November, 1905, whilst he was trimming a hedge a thorn injured his sound eye and eventually rendered him totally blind. His honour Judge Austin awarded the applicant compensation at the rate of 7*s.* weekly, this amount being half his weekly wage.

The Dolgelly Urban Council and Isolation.

An epidemic of scarlet fever having occurred at Dolgelly, North Wales, the urban council has for some time been considering the desirability of providing an isolation hospital. A difficulty was experienced in regard to finding a site but the council has now been offered a piece of land as a free gift. At a meeting of the council held on June 15th a proposal was moved and seconded that the offer should be accepted and that an isolation hospital should be erected. An amendment to defer the matter was supported by Mr. Allen who, though in favour of the movement, contended that there was a difference of opinion among medical men on the question and stated that a writer in THE LANCET had brought forward statistics to prove that isolation hospitals had not been successful in preventing the spread of disease. The medical officer of health (Dr. Hugh Jones) emphatically advised the council to provide isolation as the most effective check to infection, pointing out that if the first few cases had been isolated the epidemic would have been at an end. He regretted that he was not able to isolate his child in hospital. Mr. Allen, he said, had not fully understood the nature of the considerations which guided medical men in the matter and he did not accept the conclusion which Mr. Allen arrived at. As the sanitary authority of the district the council was responsible for the local health requirements and nothing would justify it in throwing away the opportunity of obtaining a site for the isolation hospital. Dr. Jones added that all the medical men in his district were of the same opinion on this subject. The amendment was carried, whereupon Mr. Fox, county court registrar, who had moved the proposition to erect a hospital, proposed that the council should

adjourn as it was not in a fit frame of mind to transact further business. This unusual procedure was adopted and the meeting dispersed.

June 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Importation of Boneless Meat.

AT the summer conference of the Scottish Chamber of Agriculture and Associated Societies some discussion took place on the import trade in boneless meat which has now reached considerable dimensions. It was urged that the effect of this large importation was to reduce the price of dairy cows when sold to the butcher and it was also pointed out that unless foreign beef came into the country in carcass form it could not be efficiently inspected.

The Sampling of Milk.

The agricultural correspondent of the *Glasgow Herald*, in referring to a recent case at Airdrie, has drawn attention to some errors which may arise in testing samples of milk. In this case the sanitary inspector took a sample in the ordinary way from a barrel out of which customers were being supplied. One portion of this sample tested by the public analyst contained 2·63 per cent. of milk fat and was consequently 0·32 per cent. under the legal standard in fat. A second portion from the same drawing sent to Somerset House gave 2·49 per cent. of milk fat and a third carefully analysed by Mr. T. W. Drinkwater of Edinburgh yielded 4·55 per cent. of fat. As the average of the analyses brought out 3·24 per cent. of fat the prosecutor's case broke down. In this instance the seller was disposing of morning milk and when he found the contents of the barrel to be pretty low and not running evenly from the tap he poured in a few gallons of evening milk from another "butt." In the case of the milk from the previous evening's taking the cream would probably be more or less clotted and therefore unevenly distributed through the body of the product. When the inspector took his sample the inference is that he had the full legal due of fat but in doling out the sample into three portions for analysis the Edinburgh analyst received extra clots of fat while the local man and Somerset House had much less than an average amount of the sample. Should this inference be correct it points to some alteration being necessary in the methods of sampling milk.

Aberdeen University Medical Society.

At a meeting held on June 15th, Professor J. T. Cash presiding, Dr. H. M. W. Gray delivered an interesting and instructive address on the Operative Surgery of the General Practitioner. Concrete examples were cited to show how the general practitioner may readily enough be called upon to perform single-handed some of the most serious operations, when, as at sea or on the veldt, skilled assistance is unavailable; and, again, in such circumstances as preclude the loss of time entailed by waiting for such assistance. Dr. Gray pleaded for better accommodation in our hospitals for operations on out-patients, and expressed himself as in favour of the establishment of cottage hospitals in the country, where the major operations might be performed by the specialist while the so-called minor operations might quite well be left to the general practitioner. Many excellent practical hints were given regarding the management of these minor operations. There was a large attendance of medical men and all listened closely to what Dr. Gray had to say. Dr. George M. Duncan made a few remarks and on the motion of Dr. George Mitchell, the president, Dr. Gray was awarded a hearty vote of thanks.

Fife Medical Men and the Notification of Pulmonary Tuberculosis.

The members of the Fifeshire Medical Association and the Fifeshire branch of the British Medical Association on June 15th, visited the Ochil Hills Sanatorium, a fine and well-equipped building, surrounded by extensive pine woods, 800 feet above sea level. At a meeting held afterwards an interesting discussion took place as to the notification of pulmonary tuberculosis as an infectious disease and its treatment by public authorities. A motion that it was desirable in the interest of public health that local authorities should add pulmonary tuberculosis to the list of diseases notifiable under the Notification Act of 1889, after discussion was carried by a large majority.

June 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

Lord Castletown has been appointed to be Chancellor of the Royal University of Ireland in the room of the Earl of Meath, resigned.

The Case of Dr. James Byrne Coleman.

A meeting was held recently at the Royal College of Physicians of Ireland, the President, Sir William Smyly, being in the chair, when the following motion was adopted, proposed by the President of the Royal College of Surgeons in Ireland, Sir Arthur Chance, and seconded by Sir Arthur V. Macan:—

That we, the professional brethren of Dr. James Byrne Coleman, hereby congratulate him on the successful manner in which he has recently refuted the unfounded charges brought against him and express our sympathy with him in the trouble through which he has passed without blemish on his character or honour.

Pursuant to a further resolution, a copy of the foregoing resolution has been posted to all the members of the medical profession in Ireland.

The Public Health Appointment in Belfast.

At the adjourned meeting of the Belfast city council in committee on June 18th the salary was fixed for the medical officer of health at £600 per year. It was first moved by the chairman of the public health committee that the payment should be £800, to which an amendment was proposed to the effect that it be £750, rising by £50 annually to £1000, and that the person appointed should have at least three years' experience as medical officer of health in Ireland or medical officer or assistant medical officer of health in Great Britain. This amendment was lost by 25 votes to 11. Then another amendment, fixing the salary at £600, was passed by 19 votes to 14. This was finally adopted as the substantive motion by 21 votes to 16, an amendment to make the salary £500 being lost. The decision was reached at a meeting of the city council where out of 60 only 37 voted. It will not be likely to put an end to the existing state of friction. It will be regarded as a distinct slap in the face to the public health committee and it means, if it is confirmed by the city council, that there may be no first-class candidates for the very important office. It is fortunate that the Local Government Board has a veto in the matter and it is expected that this department will be urged by the citizens to veto such an inefficient salary.

Presentation to Mr. Charles Darnell.

The friends and patients of Mr. Charles K. Darnell of Bangor, county Down, presented him on June 12th with an illuminated address, a silver rose-bowl, and a purse of 100 guineas. The chair was occupied by Lord Clanmorris. Mrs. S. C. Davidson presented the address, the Dowager Marchioness of Dufferin and Ava presented the rose-bowl, and Lady Clanmorris handed the purse of 100 guineas. Speeches extremely flattering to Mr. Darnell were delivered.

Ulster Medical Society.

The annual meeting of the Ulster Medical Society was held in the Medical Institute on June 14th, the President (Dr. W. Calwell) being in the chair. The annual reports showed that there were 188 members and that financially there was a balance to credit. It was decided that the office of president should be tenable for one year only. Dr. D. P. Gaussen (Dunmurry) was elected president, Dr. F. H. Sinclair (Rostrevor) and Dr. W. B. McQuitty vice-presidents, Dr. H. Stevenson secretary, Dr. V. G. L. Fielden treasurer, Dr. W. L. Storey librarian, and Dr. J. C. Rankin editorial secretary.

Tuberculous Pork in Belfast.

At the weekly meeting of the markets committee of the Belfast corporation held on June 16th it was reported that seven carcasses of pork affected with tuberculosis had been seized during the three months March, April, and May in the markets, while during 1905 there had been only two seizures of tuberculous pigs. Apparently the disease is now more

prevalent than it has been during some time past. These seizures have all been made from pigs passing through the markets, numbering about 400 per week, whereas the average number coming into the city is about 5000 weekly.

June 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Gunshot Wound of the Lung; Operation.

AT a meeting of the Surgical Society held on May 30th M. Tuffier said that the majority of gunshot wounds of the lung healed without any other treatment than aseptic closure of the wound and keeping the patient at perfect rest. In a certain number of cases, however, the intra-pleural hæmorrhagic effusion became septic and it then became necessary to do a thoracotomy to drain the pleural cavity. Again, in occasional instances a primary operation was necessary on account of the grave symptoms presented by the patient. Such a case had occurred in M. Tuffier's practice, it being that of a young woman who had received a gunshot wound of the lung in the cardiac region. Left pneumothorax supervened, with subcutaneous emphysema and urgent asphyxia. Thoracotomy was immediately performed and at the bottom of the wound the pericardium was found intact, while the pleural cavity contained a quantity of blood. A tongue of pulmonary tissue presented in the wound which M. Tuffier was able to seize and to draw out. In this tongue was an orifice admitting the index finger, from which blood welled up profusely. A double ligature was applied and the pleural cavity was cleansed and drained. Septicæmia, however, supervened and the patient died on the third day. No post-mortem examination was allowed, so that the source of the septicæmia was undetermined.

Jejunostomy with Torsion.

M. Guinard, for M. Souligoux, read a paper containing some remarks upon jejunostomy before the same meeting of the society. The paper dealt with two cases, the first being that of a man, aged 60 years, who suffered from pyloric stenosis, but the stomach was so widely involved that it was found impossible to perform a gastro-enterostomy. M. Souligoux therefore determined to do a jejunostomy "*en Y*," together with the application of torsion, a method which he had previously recommended for gastrostomy. The patient lived ten days after the operation but during the whole of this time the walls of the opening into the jejunum remained in perfect contact with the abdominal wall. The second case was that of a patient with cancer of the cardiac end of the stomach. As in the former case, there was so much involvement of the viscus that a jejunostomy had to be performed and this operation was carried out "*en Y*," with torsion. The patient lived for two months and union remained perfect. M. Guinard raised the question as to whether the method "*en Y*" was useful, since the torsion was the factor upon which operators relied to secure good union. In a case under his own care he had performed jejunostomy with torsion simply, with an excellent result in so far as regarded union, but the patient died on the tenth day after the operation.

The Children of Tuberculous Parents.

M. Calmette, the director of the Pasteur Institute at Lille, read a paper on June 11th before the Academy of Sciences. The subject of the paper was that of children born of tuberculous parents and M. Calmette affirms that his experiments, carried out in collaboration with M. Guérin, enable him to affirm that it is possible to immunise children from their birth against tuberculosis by means of repeated and very attenuated doses of tubercle bacilli. For a period of four months, however, and this is the great difficulty, the children must be protected from any outside infection whatever, which end is only to be attained by the creation of special nurseries. This difficulty is only of slight importance in comparison with the raising up of a race which is refractory to one of the most deadly of diseases. Dr. Roux, in collaboration with M. Vallé, has confirmed the experiments carried out by M. Calmette but he cannot hold himself responsible for the results of any treatment which may be entered upon as a consequence of such experiments.

Commission on Tuberculosis.

M. Netter, who has drawn up the report of the Commission on Tuberculosis, laid the following statements before the Academy of Medicine on June 5th: 1. Statistics of the cause of death cannot be considered as trustworthy unless the declarations have been made by medical men, but in all such cases precautions must be taken to see that professional secrecy is not violated. 2. The question of the revision of the causes of death which is to serve as a basis for declarations of death cannot be definitely decided before the meeting of the next International Conference in 1910. 3. The notification of infectious maladies which is at present obligatory on a medical man should also be obligatory on the head of the family, the landlord, or the head of a business or other establishment. 4. With regard to the fight against tuberculosis the medical man in charge of the case shall instruct the friends of the patients in the measures to be taken to prevent infection, and this medical man, the patient's family, or the head of the business or other establishment can demand disinfection in a case of undoubted tuberculosis. Such disinfection is above all necessary in the case of death of the patient or when he changes his domicile. It is also necessary in so far as regards tuberculosis to organise the fight against this disease by means of a special law, which law should take into consideration not merely the transmissibility of the disease but also the etiological factors in it, such as unhealthy dwellings and alcoholism. 5. The Academy should call the attention of the public authorities to the necessity of the active working of the disinfection regulations laid down by the law of Feb. 10th, 1902. Whooping-cough is added to the list of infectious diseases declared by the Academy to be compulsorily notifiable. These regulations were adopted by the Academy.

Appendicitis and Muco-membranous Typhlocolitis.

M. Dieulafoy made a very important communication to the Academy of Medicine on May 29th. He commenced by saying that he was, and always had been, one of the most strenuous advocates of surgical methods in the treatment of appendicitis but he observed that many patients were mistakenly operated on for this condition, although they did not suffer from it. He said that muco-membranous typhlocolitis was characterised by alternations of constipation and diarrhœa, in the course of which the patient passed mucus, glairy fluid, portions of membrane, and sometimes gritty matter (*sable*). This disease, moreover, caused from time to time attacks of abdominal pain occasionally localised in the right iliac fossa—attacks which might lead to the diagnosis of appendicitis. In support of this opinion he related clinical histories of some patients who had in recent years been mistakenly operated on for appendicitis although they were only suffering from muco-membranous or sandy typhlocolitis. It was therefore of the greatest importance to distinguish between the painful attacks of typhlocolitis and those of genuine appendicitis. On the other hand, as it was now proved that the various forms of muco-membranous typhlocolitis were neither excited nor kept up by appendicitis, the removal of the appendix ought not to enter into the treatment of these diseases. Patients who were the subjects of typhlocolitis and whose appendices had been removed continued to suffer as before and to require medical treatment. Only suppurations or toxin-infected foci in the appendix were benefited by surgical treatment. M. Lancereaux, in expressing his agreement with these views, said that hysteria and certain effects produced by absinthe-drinking were often mistaken for appendicitis.

Opening of the Filter Beds at Nanterre.

Filter beds have recently been constructed at Nanterre for the filtration of the water supplied to seven communes in the vicinity of Paris and were formally opened on May 27th. The Prefect of the Seine presided at the ceremony and inspected the works attended by the engineers and principal officials of the water company.

Day Nurseries for Infants in Hospitals.

It is announced that the Assistance Publique of Paris has, on the application of numerous medical men, established at the Hôpital Saint-Antoine and at the Hospice d'Ivry two day nurseries for the infants of the female staff (*deux crèches pour les nourrissons des infirmières*) of these institutions. These nurseries, corresponding to the *garderies*

d'enfants at certain factories, will encourage mothers to suckle their children and will tend to diminish infantile mortality. The principle is therefore an excellent one.

June 18th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Distribution of Milk for Infants.

THE report of the institution for providing infants with good milk was read at the last meeting of the Society for Diseases of Children and its contents were very interesting. Only the poorest of the poor are eligible as recipients of this milk. Infants were formerly supplied with it up to the age of 12 months, but now the numbers have so much increased that five weeks have been made the limit of age. The institution undertakes the preparation and distribution of the milk and also supports the dispensary. The mothers have to bring their infants every week to be examined. Every fortnight a record is made of the weight of the children and their measurements. In the year 1905 there were 869 children provided for and the total number of days of treatment was 81,000. There were on an average 180 children under treatment every month. The milk was diluted with water or barley water and milk sugar was added to it according to the age. Milk was also given to mothers who suckled their infants; this milk was pure, rich in cream, and solely for the use of the mothers as an addition to their food. The infant's milk was distributed in sterilised bottles containing the proper quality and quantity ready for use. The total amount of such milk required during the year was 68,000 litres. Butter-milk was given to 39 children suffering from chronic gastro-enteritis; 430 children were kept on mixed diet—namely, breast-feeding and bottle-feeding—and 439 solely on bottle-feeding. The mixed feeding proved very beneficial as the mortality under it was only 5 per cent., whilst the mortality under entirely artificial feeding was 17 per cent., the deaths occurring mostly during the warm summer months.

A Case of Lead Poisoning.

Dr. Ignaz Weiss calls the attention of practitioners to the danger of prescribing lead preparations without the precaution of adding the words "Ne repetatur." He was consulted by a man who suffered from tuberculous infiltration of the lungs and complained of cardiac uneasiness. Examination revealed hypertrophy of the heart and rigidity of the arteries, with high-tension pulse. The man was shown at a meeting of the Clinical Society on account of the etiology of his cardiac disease. His gums were of the typical greyish-blue colour seen in lead poisoning. He had never worked with lead but six weeks ago he had an attack of hæmoptysis and was treated with acetate of lead in doses of three centigrammes (or half a grain) three times daily. He had taken the medicine continuously all this time notwithstanding the disappearance of his pulmonary symptoms, simply as a prophylactic. He had therefore taken nearly four grammes (or 62 grains) of the lead salt. This quantity had sufficed to produce a complex of symptoms which in a hospital had been diagnosed as hysteria virilis, and the treatment adopted against the supposed hysteria was not well adapted for the relief of lead poisoning. Dr. Weiss, of course, ordered absolute abstention from lead and prescribed sulphur and iodine internally to eliminate the lead from the system.

Half-day Teaching in Elementary Schools.

An important change has been introduced for trial into the method of teaching in the elementary schools in Austria. Hitherto the school hours for children aged from six to 14 years have been from 8 A.M. to 10 A.M., 11 A.M., or 12 noon, according to the standard, and 2 to 4 P.M. In the warm months (June and July) there were no afternoon classes if the temperature rose above 20° C. at 10 A.M. The school department for Austria has now decided to abolish the afternoon teaching entirely during the warm months and to add the afternoon lessons to the forenoon ones, thus keeping the children in school from 8 A.M. to 12 noon or 1 P.M. After each hour an interval of five or ten minutes is ordered, during which time the windows have to be kept open and the children made to perform several gymnastic evolutions or taken out of the class-rooms in order to admit fresh air into the rooms and to relieve the strain of continuous sitting. Apart from the disturbance of domestic arrangements and the burden upon the teachers brought about by this change of hours the physical strain upon the susceptible brains of children is thought by many parents and teachers and medical men so severe that a feeling of indignation is rising against the new measure. The question of the good or evil of such a drastic departure from time-honoured customs is largely a medical one and it is a thing to be tried before it can be condemned. The prospect of six or even more free hours for the little ones in the summer months is very attractive as they could make use of the time for getting plenty of fresh air in playgrounds and excursions. It remains to be seen whether this advantage will be able to counterbalance the continuous strain of five hours at school.

An Outbreak of Hysterical Laryngismus in a School.

A curious epidemic of a laryngeal character appeared recently in a home for orphans in Vienna. A boy, aged eight years, caught cold and after some days suffered from severe laryngitis and bronchitis which caused him much pain and made him cough very loudly and violently. Soon afterwards the boy in the next bed began to cough, yell, and utter barking sounds, and in a few hours' time all the boys in the room (about 27 in number) were yelling and barking and coughing. Examination of the throats showed nothing abnormal except in the case of the boy who was first taken ill. The attacks of coughing came on periodically, every 10 or 12 minutes. They consisted of three, four, or five violent expiratory coughing sounds. The children became very weak, heart complaints were apparent in seven children, and complete prostration ensued in two young boys. During the night there was no coughing but if the electric light was turned on those who were awake soon began to yell and to cough once more. The administration of codein, bromides, and other sedatives and the application of cocaine spray were quite useless. Next morning the same condition as on the day before was repeated and a consultation was held with Professor Kassowitz who concurred in the diagnosis of a hysterical epidemic. The treatment consisted in psychical suggestion and influencing the older boys. Now and then a slight smack on the face or the menace of a thrashing succeeded in suppressing an attack. After dinner all the children without exception, even those suffering from exhaustion, were ordered to take a long walk sufficient to cause fatigue, during which the attacks diminished in number and frequency and next day, after a night's sound sleep, there was no recurrence of the symptoms. There was in some patients, especially in those who coughed longest, some coöperation between the muscles of the thorax and those of the face. This caused a certain amount of twitching, which made the disease resemble laryngeal chorea, but the abrupt termination, together with the psychical effect of fear, distinguished it well from such (rheumatic?) manifestations.

An Action for Damages brought against a Hospital.

Shortly after the remarkable action brought against a medical man a whole hospital was sued jointly with a surgeon for neglect on the part of both, the result of this neglect being that a patient was severely burned. Through some unexplained misadventure the patient, who had been anæsthetised with ether in order to have some small carbuncles touched with a Paquelin's cautery, became enveloped in flames for a few seconds and was burned on the face, neck, and arm. She alleged that the operating room was badly ventilated and that its atmosphere was charged with ether which exploded when the red-hot Paquelin's cautery was applied to her body. During the hearing evidence was given by medical and technical experts and the charges of negligence made against the managers of the hospital were shown to be groundless. The case was dismissed because neither the hospital authorities nor the operator could be proved to be in fault. The patient will, however, receive compensation for the slight disfigurement.

June 16th.

SEWAGE DISPOSAL AT SWINDON.—Mr. E. A. S. Fawcett, of the Local Government Board, held an inquiry at Swindon on June 12th into an application by the town council for permission to borrow £15,500 for the extension of the sewage works of the town.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Illness of one of the Sultan's Daughters.

ONE of the Padishah's daughters, Resia Sultana, having been suffering for some time from appendicitis, the Sultan's medical advisers, Dr. Said Pasha and Dr. Ibrahim Pasha, who have been attending her, proposed to Abdul-Hamid that he should ask some European authority to come to Constantinople for the purpose of considering, in consultation with them, the question of operative treatment. The choice of the Padishah fell upon Professor von Bergmann of Berlin and the latter arrived in the Turkish capital promptly with his assistant, Dr. Bier. He was at once received by the Sultan in private audience and was then conducted to the apartments of the Princess. Professor Bergmann made repeated visits to the ailing Princess and decided that operative interference was not indicated. The Sultana is now convalescent. The Sultan has conferred upon Professor Bergmann the Grand Cordon of the Osmanieh in brilliants. Dr. Bier received the Grand Cordon of the Medjidieh. Some extraordinary stories have been published in the European papers about the professional fees that were given.

New Sanitary Measures.

The Conseil Supérieur de Santé has decided to suspend the 24 hours' medical observation for steamers coming from Alexandria and to replace this observation by a medical visit, by a thorough disinfection, and by a strict application of the sanitary regulations concerning the destruction of rats and mice on board the steamers. All these measures have to be effected either at the sanitary station of Jaffa or at that of Rhodes, or at one of the lazarets of the Ottoman Empire. The same measures are taken with regard to steamers coming from Bender-Boushir.

Adulteration of Butter.

It has been found that much of the butter sent to Constantinople from the interior of Turkey is adulterated. The foreign commercial agents residing at the maritime stations are accused of this fraud as it is alleged that the peasants of the far-away provinces are quite unacquainted with deceitful practices of falsification. The Ottoman Government has had recourse to two measures to prevent further frauds. The first is to institute a regular service of chemical analysis at the custom-houses and the second is to send necessary instructions to all the agricultural inspectors of the provinces to do all in their power to enhance the proper development of the industry of butter production. The Turkish newspaper *Ikdam* thinks that a very efficient measure would be to instruct the rural population in all the modern methods of butter production.

Roentgen Rays for the French Hospital.

A new apparatus for the treatment of disease with the Roentgen rays was inaugurated in the French hospital of Constantinople last week. The French Ambassador, M. Constans, was present at this inauguration. Professor Béclère of Paris, complying with the request of the council of administration of the said hospital, has sent to Constantinople M. Jangeas, the chief of his Paris laboratory, to supervise the new installation.

A High Distinction for a Constantinople Medical Man.

Kaiser Wilhelm has conferred the Star of the Crown of Prussia upon Dr. von Mühlig on the occasion of the fiftieth anniversary of his appointment as physician to the German hospital in the Turkish metropolis. This hospital is one of the best institutions of the kind on the banks of the Bosphorus, neither efforts nor money being spared to make it the pride of the German colony.

Miscellanea.

A rich Greek philanthropist, Panayotis Acritas, has offered 5000 Turkish liras for the construction of a hospital at Trebizond, his native town. He offers also to contribute 500 liras annually for the upkeep of the establishment.—Military medical officers will be commissioned, says the *Levant Herald*, to make chemical analysis in the custom-houses at Constantinople, Trebizond, Beyrut, and Salonica.—Dr. Deyke Pasha, the chief of the medical staff of the Ottoman Hospital Gulhané, claims to have discovered, after long years of research and study, a remedy against leprosy. Details are not yet available.

June 15th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

The Meeting of the British Medical Association in Toronto.

THE medical profession in Toronto is looking forward to the coming seventy-fourth annual meeting of the British Medical Association, to be held here from August 21st to 25th. A moderate estimate of the attendance suggests that 300 will come from other parts of the British Empire, 300 from the United States, and 500 or more from Canada. Mexico is sending an official delegation, so is Japan. Celebrated physicians from Paris, Berlin, and other European medical centres will also be present. The American Association of Pathologists and Bacteriologists has been formally invited to send representatives. The headquarters of the meeting will be the buildings of Toronto University, which are beautifully situated in Queen's Park, in the heart of the city.

The Third Congress of French-speaking Physicians of North America.

The French-speaking physicians of North America will hold their third Congress this year at Three Rivers, province of Quebec, from June 26th to 28th. The executive committee of the Congress consists of the following: President, Dr. L. P. Norman (Three Rivers); vice-presidents, Dr. J. O. Carmirand (Sherbrooke, Quebec), Dr. J. E. Dube (Montreal), and Dr. G. A. Boucher (Brockton, Massachusetts); general secretary, Dr. Charles De Blois (Three Rivers); and treasurer, Dr. Alex. St. Pierre (Three Rivers). The principal questions to be introduced and discussed at this meeting will be alcoholism, infantile hygiene, and tuberculosis.

The Dean of Trinity Medical College.

Fifty years ago Dr. W. B. Geikie, for so many years dean of Trinity Medical College before it became amalgamated with the medical department of Toronto University, began medical teaching. Most of that time he was prominently identified with Trinity, the classes of which have now ceased. Dr. Geikie has been presented with an ebony cane, gold-mounted and inscribed: "Semi-centenary, W. B. Geikie, Dean, Trinity, '06."

Patent and Proprietary Medicines in Canada.

In the recent provincial parliamentary sessions measures have been presented for the regulation of the manufacture and sale of patent and proprietary medicines but so far not much legislation has resulted in any provincial house. In the Federal Parliament, where a special committee has been appointed to investigate the condition of matters throughout the country in this respect, it has been decided that it would be in the interests of the public for the chief analyst of the department of chemistry at the capital to draft a Bill for introduction into the House of Commons. This will be done without delay and as the present Canadian laws do not provide for routine chemical examination of these preparations on the Canadian market it is altogether likely that there will be some law passed relative to the whole subject of patent nostrums. This may result in the registration of the exact compositions of proprietary medicinal compounds.

Cerebro-spinal Meningitis in Nova Scotia.

In the county of Lunenburg, province of Nova Scotia, in July, 1905, there was in the mid-summer, as is probably well known to your readers, an epidemic of cerebro-spinal meningitis. A succinct report of this has now been given to the medical profession in a paper by Dr. H. K. Macdonald of Lunenburg, published in the *Maritime Medical News*. There appear to have been over 200 cases with a death-rate of 7 or 8 per cent. Of the non-fatal cases, temporary or permanent paralysis followed in from 20 to 25 cases. The epidemic was not confined to the homes of the poor but attacked as well the homes of the well-to-do. The disease was localised to a district having a radius of eight miles and was particularly prevalent in thickly settled communities. All the children of a family in which it appeared were affected

in the majority of cases. Dr. Macdonald had 40 cases, with two deaths, under his own charge.

Toronto University Commission and the Faculty of Medicine.

The Government of the province of Ontario some months ago appointed a commission to deal with the best methods of governing and administering the affairs of Toronto University. Some eminent educationists, judges, and prominent commercial men, as well as two or three teachers, composed this commission, Professor Goldwin Smith being also of the number. In its report the following paragraph appears relating to the medical faculty. After paying a high tribute to the members of the medical faculty for their self-sacrifice and zeal in medical teaching the report says the ultimate incorporation of the faculty into the University with the same relations as the other faculties is recommended. In the meantime it is recommended that the University should at once pay the salaries of one professor of pathology and one professor of anatomy, as is common in the case of other universities, and should create chairs in hygiene and pharmacology.

June 14th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Increase in the Number of Pauper Insane.

THERE seems to be a similar tendency to increase in the asylum population in India as in the United Kingdom but the increase is less rapid. The growth in the number of lunatics in Bengal is attributed partly to an increased confidence in the institutions and partly because the people seem to be taking advantage of them in order to get rid of the burden of supporting incapable relatives. Instead of having small asylums distributed over the province it is the intention of the Bengal Government to concentrate all the lunatics at one large central asylum to be erected at Ranchi. An advantage of this arrangement will be that the asylum will be placed in charge of an expert. A further proposal is under consideration to establish one central asylum for all European lunatics and Ranchi is also suggested for this new institution.

The Decline in the Plague Epidemic.

The plague epidemic this year has been much less severe and the weekly returns are now showing a steady decline in the number of deaths. For the week ending May 19th there were reported 13,061 cases and 11,783 deaths. The provincial returns are as follows: Punjab, 9248 deaths; Bombay, 1002 deaths; United Provinces, 918 deaths; Bengal, 228; Kashmir, 220; Burma, 95; Central India, 25; Mysore, 20; Rajputana, 18; and Madras, 2. Disturbances arising from carrying out even the mild current plague measures continue to occur. The last reported was in Rangoon, when Captain Simpson made an inspection of a house in the east of the town. It was necessary to enter the house because a suspicious case of illness was known to have occurred, but the residents resisted and a crowd soon collecting attacked Captain Simpson and his staff with sticks and stones. Assistance was promptly at hand and some 20 men were arrested. In consequence of this all the garrywallahs (cabmen) went on strike, but the inconvenience will fall on the native community who are almost entirely their customers. Fortunately, the officers on duty escaped with only slight injuries. This case, however, is another proof of the risks and dangers which the plague officers in India have had to run. The investigations into the spread of plague which have been conducted in Bombay strongly tend to prove the rat theory of plague and the association of the flea as a carrier of the infection. The black rat (*Mus rattus*), which is said to be the common rat of India, is entirely different in its habits to the brown or Norwegian variety. The former lives in the roofs of huts and is on the move amongst human beings. Consequently, when attacked with plague infection from the rat is comparatively easy and may be carried in several ways. The brown rat lives in sewers and away from houses and does not come into such close contact with man and consequently there is not so much danger from this variety of rat. The question of seasonal prevalence is now being studied and more particularly the habits of rats and their parasites, their breeding season, and the existence of chronic plague among them when the disease is not epidemic.

The Health Officer of Calcutta.

The prolonged discussions of the corporation of Calcutta with regard to the health officer have resulted in an extension of service to Mr. J. Nield Cook for about 18 months, but as he proceeds on leave immediately on account of ill-health Dr. T. F. Pearse of the plague department has been appointed to officiate for seven months.

May 31st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

ONE further fatal case of bubonic plague occurred in Sydney on May 11th and infected rats continue to be caught in the infected area in Sydney—the Darling Harbour district.

Small-pox in Tasmania.

A small outbreak of mild small-pox has occurred in Tasmania. Prompt measures have been taken, "contacts" have been isolated and vaccinated, &c., and the disease has not spread.

Typhoid Fever in Victoria.

Several cases of typhoid fever at Richmond, Victoria, have been traced to contaminated milk from the same dairy at Preston as supplied milk to the cases at South Melbourne (referred to in a previous communication). The recorded cases of typhoid fever in Victoria for the last three years were as follows: 2488 in 1903, 2037 in 1904, and 1336 in 1905. In investigating the condition of the drains at Preston the officers of the Board of Health found that night-soil was largely used on farms as manure and that it was not always properly covered over. One of the reservoirs for the metropolitan water-supply is in Preston and the main aqueduct—an open channel—runs through the district. Yet this practice of allowing night-soil to be deposited on farm lands in proximity is still allowed and the local health officer for the district appears to approve of it. He reported to the Preston council that—

> Over 20 years ago I impressed on my council that the sole danger was in burying excreta, not in using it as a manure spread upon the surface. Experience has confirmed this, as the shire has been remarkably free from typhoid since burying was discontinued, no cases being directly traceable to manure.

He does not believe that typhoid germs could be carried in dust to the reservoir and accuses the health authorities of "being steeped in mediæval superstition" for so considering. At the meeting of the board of public health on April 20th a report was presented on the prevalence of typhoid fever and in discussing it reference was made to the defects in the Health Act, and especially to the way health officers were appointed by the municipalities. There were 280 of these and the average rate of salary for each health officer was £20 per annum. It was recommended that health officers should be appointed by the board in charge of districts with good salaries and no other duties or private practice. The chairman was instructed to bring the matter under the notice of the Government.

Jubilee of the University of Melbourne.

The University of Melbourne has just celebrated its jubilee. It is really more than 50 years since it was founded. It was constituted by Act of Parliament which received the Royal assent on Jan. 22nd, 1853. The first council met on May 3rd, 1853, and the foundation-stone of the building was laid on July 3rd, 1854, but the building was not ready for occupation till June 3rd, 1855. The first students numbered 16, while now there are over 700 attending lectures. The university began with four professors, now it has 15, besides many lecturers and demonstrators. The university in its 50 years has become year by year a greater force in the community. Its own graduates have become its councillors and its professors and teachers. Among the learned professions which have been fields of competition for graduates of all universities Melbourne men have more than held their own. In law, and in medicine especially, the leaders are for the most part Melbourne trained men. The university has also supplied professors and teachers to other universities not only in Australia and New Zealand but to other countries, one

being a professor in the Imperial University at St. Petersburg and another at Cairo.

University of Sydney.

Sir Arthur Renwick, M.D., has been elected Vice-Chancellor of the University of Sydney. Dr. F. P. Sandes has resigned the position of demonstrator of anatomy and Dr. S. A. Smith has been appointed in his place.

Hospital Affairs.

The annual meeting of governors and subscribers of the Royal Prince Alfred Hospital, Sydney, was held on April 9th, his Excellency the Governor presiding. Professor T. P. Anderson Stuart, in moving the adoption of the report, said that the number of deaths (303) was the lowest for many years past, the highest total being 380 in 1900, while the mortality per cent. on operations was absolutely the lowest on record in the history of the hospital, being only 2·09, as against the previous lowest percentage of 2·4. The number of out-patients treated was the highest on record, the number of attendances being 50,079. The number of operations performed (2335) was likewise the high-water mark of the hospital. During the year six large wards and one small ward in the new pavilions had been opened, thus increasing the total number of beds available from 236 up to 318. An intimate relationship had been established between the hospital and His Majesty's fleet in that the surgeons of the fleet had been, by a new by-law, made consulting medical officers of the hospital for naval patients. The finances of the hospital as a whole showed a deficit of £1276, but this was not a real deficit, being due to the fact that considerably over £2000 had been paid out of revenue for additions and works of a permanent character and of one sort and another. The erection of the Queen Victoria pavilions has necessitated some alterations and permitted additions. The pathological department has been greatly extended and rooms have been provided for chemical investigations and photography. A cold storage plant has been erected and the whole department when complete will be unsurpassed in the Commonwealth in its extent and facilities for research. At its last monthly meeting the board of directors decided to increase the honorary staff by appointing an additional physician and surgeon, an assistant ophthalmic surgeon, and an assistant gynæcological surgeon. It was also resolved to create a new lock department and a department for medical gymnastics. The board has also decided that in the case of future appointments to the nursing staff the term of service should be four instead of three years.—On April 10th his Excellency the Governor laid the foundation-stone of the new south wing of the Sydney Hospital. The old south wing, erected in 1859, had become unsuitable and insanitary and had to be demolished and a new building was to be erected estimated to cost £20,000. During the past ten years 39,727 patients were admitted to the wards, while 167,583 out-patients were treated. The casualty patients numbered 89,277 and the operations performed totalled 24,238.—The managers of the Alfred Hospital, Melbourne, recently waited on the Treasurer of Victoria to protest against a reduction of the Government grant to that institution. Last year it was decided that the grant should be distributed to all the hospitals on the basis of the daily average number of patients and that no grant would be made for a longer period than 25 days' stay for each patient. The result was a diminished grant in several cases. The managers of the Alfred Hospital maintained that it occupied a different position from the hospitals in the city as it necessarily had fewer patients whose stay in hospital was short. The Treasurer, in reply, said that he had caused statistics to be prepared by the Inspector of Charities and he found that the amount of money spent on administration was excessive, being 76 per cent. of the total expenditure. In the Alfred Hospital it was 72 per cent., the management costing £7852 per annum, and the actual expenditure on patients £2986. He was not inclined to increase the vote for charities but was inclined to consider some scheme for amalgamating the hospitals. The figures prepared by the inspector have been much challenged. He arrives at the actual expenditure on patients by including the cost of provisions, surgery, and dispensary, less the cost of the board for nurses and attendants, which he estimates at 10*s.* per week each. In the case of the Alfred Hospital such a method works out that the cost of sustaining the patients is only 4*d.* a day, which is obviously absurd.—An inquest was held on the body of a child who died at the Coast Hospital, Sydney, in the following circumstances. She was admitted to the Sydney Hospital on April 7th, suffering from severe scalds. On the 12th by direction of Dr. H. L. Maitland, one of the honorary surgeons, she was removed to the Coast Hospital as she was alleged to have developed scarlet fever. The superintendent at the Coast Hospital said that she was moribund on arrival and died soon after admission. He thought that she ought not to have been moved. The post-mortem examination showed that the cause of death was septicæmia. The coroner found that the deceased died from that cause and from the weight of evidence and the circumstances of the case the transference to the Coast Hospital was a proper course to adopt.

Friendly Societies in New South Wales.

The report read at the annual meeting of the Friendly Societies' Association of New South Wales stated that there were 1139 branches, 91,014 members, and benefit funds amounting to £784,467.—On March 30th, the new buildings erected at Redfern, Sydney, as a dispensary for the United Friendly Societies were formally opened and the occasion was celebrated by a banquet. In proposing the toast of "Our Institution," Mr. McGowan, M.L.A., said that they had 10,000 members and with such a number they ought to have not only their own dispensary and dispensers but also their own medical men as well, then they would be more independent.

Verdict against a Medical Man upset on Appeal.

As mentioned in a former communication, Mr. N. R. Howse of Orange was sued by a patient last December to recover compensation for injuries received by being burnt by hot bottles at a private hospital, when the jury returned a verdict for the plaintiff with damages of £50. Mr. Howse appealed and the verdict was set aside with costs as being against the evidence. The Chief Justice said that he was unable to see evidence of negligence. The application of the hot bottles probably saved the patient's life. The action was most ungracious and should not have been brought.

Charge against Dr. Marshall: Validity of Dying Depositions.

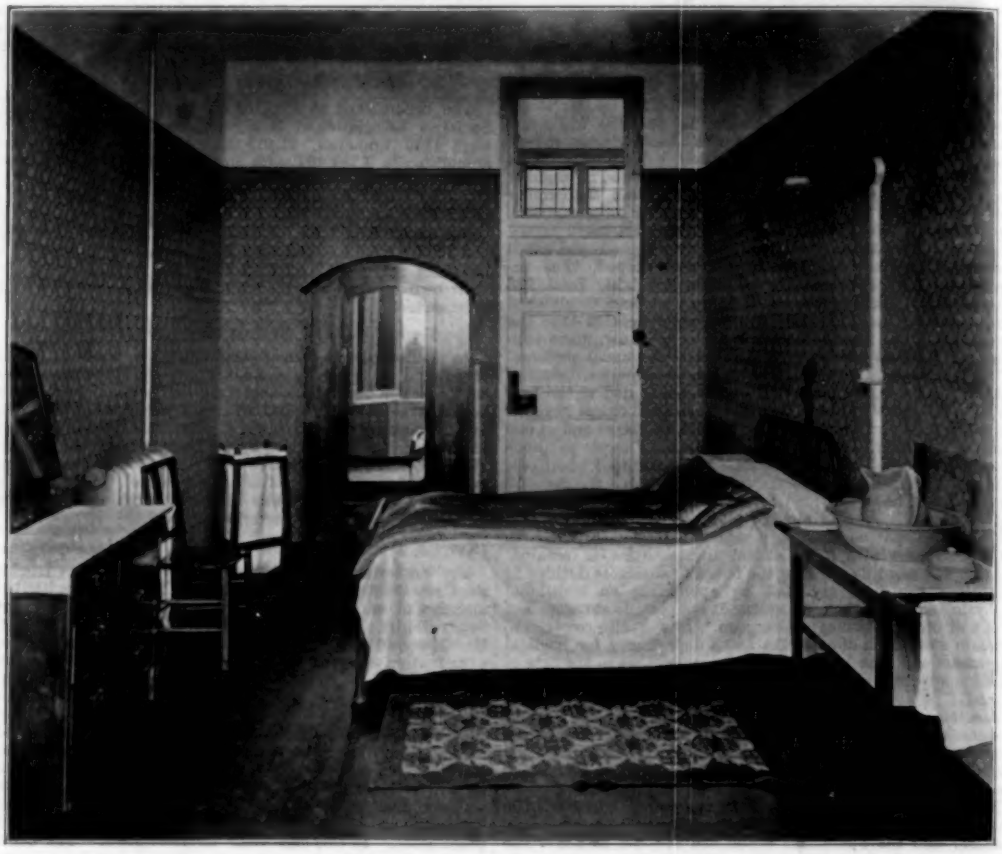
Dr. Frederick William Marshall of Sydney was tried at the Central Criminal Court on March 27th and acquitted on a charge of murder. The case for the Crown was that the deceased girl, a nurse, had an illegal operation performed by Dr. Marshall and died in consequence, the post-mortem examination showing the cause of death to be septicæmia following on a recent abortion. The deceased's dying depositions were put in which implicated Dr. Marshall, and the magistrate who took them said that Dr. Marshall was present on the following day when the deposition was read over and he was asked if he desired to ask any questions. The deceased said that Dr. Marshall was the person referred to in her statement. The judge ruled that the deposition was not admissible. The Act was very explicit that depositions should be served on accused persons as soon as practicable. In this case some hours elapsed. The Crown then tendered the deposition as a declaration by a person since deceased, but the judge again ruled it inadmissible. Without the depositions, of course, there was only circumstantial evidence. Technical protection of crime of this kind has, fortunately for the public weal, been set aside in a similar case by a recent decision of the High Court. A woman named Margaret Jackson was convicted by a jury of manslaughter, arising out of the death of a patient after an abortion, and was sentenced to six years' imprisonment. The Full Court annulled the verdict on the ground that the deceased's dying depositions were admitted and should not have been because certain words said to have been uttered were omitted and this omission rendered the whole document informal. The High Court has now decided that the depositions were admissible for what they were worth and the conviction was sustained.

May 12th.

THE KING'S SANATORIUM.

WE gave last week an account of the King's Sanatorium, which was opened on June 13th, and mentioned that the furniture of the patients' rooms, of which there are exactly 100, had been supplied by Messrs. Heal and Son of Tottenham-court-road, London, W. While specially designed to meet the requirements of a sanatorium for tuberculous

patients, the furniture is not of such a style as to suggest hospital surroundings. It is mainly made of polished birch and considerable artistic skill has been employed in fashioning it. In order to prevent lodgment of dust all the surfaces and joints have been made flush and mouldings have been avoided; the wardrobes have domed roofs and all of the ward lockers have openings to insure ventilation. The place of the usual linen basket is taken by a soiled-linen stand and bag; this bag (which is made of coarse Irish linen) can be removed from the ward to the laundry without the necessity, and accompanying risk, of disturbing its contents as the bag hangs on a frame or



A typical bedroom in the King's Sanatorium.

interior angles of drawers and cupboards are rounded off. Each article of furniture is well raised from the floor on legs to facilitate cleaning. The tops of the wash-stands, with the shelves beneath and the screens at the back, and the tops of the bedside lockers are all made of glass and are removeable. The cupboards stand and is lifted off when full and replaced by another on the same stand. Open joints are avoided in the frames of the bedsteads and the springs of the mattress are diagonally arranged instead of being straight, thus securing an even distribution of strain and increased durability.

MEDICINE AND THE LAW.

Burial Grounds and Dwelling Houses.

AN extraordinary state of affairs might possibly arise in many districts should the recent decision of the Court of Appeal in the case of Godden *v.* the Hythe Burial Board be left undisturbed in the presumably possible event of an appeal to the House of Lords, although, no doubt, an amendment of the law by Act of Parliament would set matters straight. The Burials Act provides that no burial shall take place within 100 yards of a dwelling house without the consent of the occupier, by which it was probably intended that dwelling houses in actual existence should be protected against such deterioration of their value as might be expected to arise from the opening of new burial grounds in their vicinity. In the case in question, however, the plaintiff built a house within 100 yards of a burial ground already in existence and then proceeded to obtain an injunction from Mr. Justice Kekewich against burials continuing to take place within the prescribed distance from his dwelling. It was pointed out in argument before the Court of Appeal that if this decision of the court below were held good every burial board desirous of using an acre of ground for burial purposes would have to acquire no less than 12 acres in order to be sure of being able to keep it open; and it is quite clear that otherwise any person acquiring enough land to build a cottage on might close a burial ground and that intolerable inconvenience and expense to a large district might be caused in circumstances quite easy to imagine. The Court of Appeal, however, seems to have found that the Burials Act was so clearly worded on the point that there was no way in which they could uphold the view, which certainly seems consistent with common sense, that the Act only referred to houses already built when the cemetery was

first used. They saw the hardship of the case and Lord Justice Vaughan Williams said that he could not believe that the intention of the legislature had been rightly expressed by the Act, but they had so little doubt in the matter that they did not find it necessary to call upon the counsel representing the respondent, the plaintiff in the case, to argue.

Medical Assistance in Drafting a Code.

At a recent meeting of the French Academy of Medicine a professor of medical jurisprudence referred to the proposed amendment of the Code Civil. The task of reporting upon the necessary amendments of the Code has been assigned to commissioners, among whom are to be found senators, members of the Chamber of Deputies, professors of law at the universities, and three literary men, but not a single physician is included. The learned professor enumerated several chapters of the Code with regard to which the opinion of a physician would be most valuable—questions relating to pregnancy and the birth of children, the expectation of life, marriage, divorce, and proof of death; questions relating to sound mind, memory, and understanding; and questions as to the presumption of survivorship. The medical profession made no claim to legal knowledge but were justified in thinking that their assistance would be useful if the Code was to be amended with a due regard to justice, equity, and scientific precision. English draftsmen, says the *Solicitors' Journal*, may consider that these observations are open to some criticism but they will probably think that medical men have as much right to be included in such a commission as men whose only claim is that they have achieved distinction in literature.

THE SECOND ANNUAL CONVERSAZIONE OF THE ROYAL SOCIETY.

THERE was a brilliant gathering in the rooms of the Royal Society on Wednesday last on the occasion of the second annual conversazione to which it is the custom to invite lady visitors. The display of scientific exhibits was unusually small but the organising committee had evidently decided to make the few exhibits that there were attractive not only to the scientific but to the lay mind also. Many of the exhibits of the previous conversazione were repeated and we need not refer to them. There were, however, fewer exhibits of a directly medical interest.

Perhaps Sir William Crookes's demonstration by means of the lantern attracted the greatest attention. His experiments illustrating the extraordinary properties of the diamond were carried out with great success and evoked considerable applause. He showed the "sprouting" of graphite and its change into ordinary charcoal and he demonstrated also the change of the diamond into graphite and amorphous carbon under the influence of the heat of the electric arc. He also illustrated the extreme hardness of the diamond by pressing it into steel just as a nut can be pressed into butter. Sir James Dewar exhibited his apparatus with which he produces remarkably high vacua by using charcoal cooled in liquid air. Tubes containing helion, neon, krypton, and xenon separated by charcoal from air were shown. A very interesting exhibit was that of Mr. R. G. Durrant, in which evidence was forthcoming showing that ionic separation occurs when solutions of acids or of salts are allowed to diffuse into sensitised jellies or solutions. Thus acids when they diffuse into jellies coloured with blue litmus produce a purple zone in advance of the diffusion field, and (where the acid has a bleaching anion) a yellow-red zone behind the diffusion border. A test of considerable importance in regard to the stability of explosives was illustrated by Dr. O. Silberrad and Dr. R. C. Palmer, of the Royal Arsenal Laboratories. Cordite and other propellant explosives decompose gradually on storage and may eventually ignite if their stability is not tested from time to time. In the test 50 grammes of the explosive are maintained at 70° C. in a glass vessel fitted with a mercury pressure gauge, so that any alteration in pressure may be observed. A contraction takes place at first owing to the absorption of oxygen from the air and subsequently a gradual expansion occurs. The test has been adopted by the service and will shortly be made use of as a safeguard against spontaneous explosions in powder magazines, particularly in the tropics where the deterioration takes place most rapidly. Dr. G. T. Moody showed specimens illustrating the negative behaviour of oxygen towards iron in presence of water and the effect of the admission of carbonic acid. Iron remains perfectly bright in the presence of water and oxygen so long as carbonic acid is absent. The moment, however, that carbonic acid gas is admitted rusting immediately takes place. A very pretty exhibit was that of Dr. F. D. Chattaway, consisting of copper mirrors obtained by the depositions of metallic copper upon glass. Their rich lustre is very beautiful. There were several examples shown of colour photography and it is evident that very distinct progress is being made in this interesting branch of practical study.

Apart from the attractions afforded by the exhibits, the rooms of the society were most beautifully decorated with flowers and the reception by the President, the Right Hon. the Lord Rayleigh, O.M., D.Sc., D.C.L., and Lady Rayleigh was a brilliant scene.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Traité d'Hygiène. Publié en Fascicules sous la Direction de MM. P. Brouardel et E. Mosny. III.: Anthropologie, Hygiène Individuelle, Education Physique. Par R. Anthony, E. Dupré, P. Ribierre, G. Brouardel, M. Boulay, V. Morax, et P. Lafeuille. Price Fr. 6.

BARTH, JOHANN AMBROSIUS, Leipzig.

Lehrbuch der Organischen Chemie für Mediciner. In Siebzehn Vorträgen. Von Dr. Chem. et Med. G. v. Bunge, Professor in Basel. Price M. 7.: geb., M. 8.25.

FISCHER, GUSTAV, Jena.

Die Untersuchung der Faeces auf Blut. Von Otto Schumm Chemiker am Allgemeinen Krankenhause Hamburg-Eppendorf. Price M. 1.50.

HOEPLI, ULRICO, Milano, Italy.

Pneumonite Crupale, con Speciale Riguardo alla sua Cura. Dott. Antonio Serafini. Price L. 2.50.

Prontuario di Posologia dei Rimedi più usati nella Terapia Infantile. Dott. Antenore Conelli. Price L. 2.

I Principi Fondamentali della Antropologia Criminale. Guida per i Giudizi Medico-Forensi nelle Questioni di Imputabilità. Dott. Giuseppe Antonini, Direttore del Manicomio Provinciale di Udine, Libero Docente in Psichiatria. Price L. 2.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Étiologie et Pathogénie des Hémorrhagies Graves du Nouveau-Né. Par le Docteur P. Lequeux, Licencié ès-Sciences, Ancien Interne des Hôpitaux de Paris. Price not stated.

VOGEL, F. C. W., Leipzig.

Handbuch der Kinderheilkunde. Ein Buch für den Praktischen Arzt. Herausgegeben von Prof. Dr. M. Pfaundler in München und Prof. Dr. A. Schlossmann in Düsseldorf. 2 Bände. Band I. 1 und 2 Hälfte. Preis M. 30.

LITERARY INTELLIGENCE.—Messrs. Everett and Co. announce for publication this week "The Elements of the Practice of Comparative Medicine," by George Gresswell, L.R.C.P., L.R.C.S. Edin., and F. T. Barton, M.R.C.V.S. The work will be published at 5*s.* net.

EYESIGHT OF CHILDREN ATTENDING ELEMENTARY SCHOOLS IN LONDON.—A letter has been communicated to the press by the Duchess of Albany asking for public support on behalf of the Association for Supplying Spectacles to Children in Elementary Schools in London. The association proposes to help the London County Council by arranging for the supply of glasses for school children at wholesale prices to the children's parents while in cases of real poverty pecuniary assistance will be given for the purchase. The spectacles will only be supplied on a medical man's prescription and it is stated that the plan has received the approval of the London County Council, of a large proportion of the hospitals in London, and of many interested in education. But to carry out its object the association is now asking for additional financial support and those who are willing to help it are requested to send their subscriptions to the honorary treasurer, Miss Adler, 6, Craven-hill, Bayswater, London, W., or to apply for any further information which they may require on the subject to the honorary secretary, Miss Susan Lawrence, 44, Westbourne-terrace, Hyde Park, London, W.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts received at the Mansion House, or notified directly to us as having been collected, on behalf of the Metropolitan Hospital Sunday Fund up to Thursday morning, when the sum paid in exceeded £15,000.

	£	s.	d.
St. Michael's, Chester-square, per Canon Fleming	1353	0	0
William Herring, Esq.	1000	0	0
St. Paul's Cathedral	439	0	0
St. Peter's, Cranley-gardens	334	0	0
Christ Church, Chislehurst	223	0	0
Messrs. Watts, Watts, and Co.	210	0	0
W. D. Graham-Menzies, Esq.	200	0	0
A. G. P.	200	0	0
Delta	200	0	0
St. Michael's, Paddington	162	0	0
Aldenham Church	105	0	0
St. Mary's, Shortlands	101	0	0
Kensington Congregational Chapel	101	0	0
Miss Arden	100	0	0
"F. G. D."	100	0	0
Messrs. J. S. Morgan and Co.	100	0	0
Alex. Miller, Esq.	100	0	0
Anon.	100	0	0
St. Andrew's Presbyterian Church, Frognal	84	0	0
St. Anne's and St. Mary's, Wandsworth	83	0	0
St. Augustine's, Queen's-gate	71	0	0
St. George's, Perry-hill	61	0	0
St. Luke's, Kidderpore-avenue, Hampstead	60	0	0
Congregational Church, Bromley, Kent	60	0	0
St. John's, Putney	59	0	0
Holy Trinity, Eltham	58	0	0
Christ Church, Newgate-street	53	0	0
Messrs. Vavasseur and Co.	52	10	0
St. Andrew's, Stoke Newington	52	0	0
Per Rev. W. H. Finlay—			
Mrs. Gooch	50	0	0
G. P. Gooch, Esq., M.P.	50	0	0
Miss M. E. Druce	50	0	0
F. Fleischmann, Esq.	50	0	0
The Earl of Cranbrook	50	0	0
St. John's, Sidcup	44	0	0
Hornchurch Church, Essex	43	0	0
St. Michael's, Botchworth	42	0	0
St. Paul's, Wimbledon Park	42	0	0
Finchley Parish Church	39	0	0
St. Mary's, Hayes	37	0	0
St. Matthew's, Westminster	37	0	0
All Saints', Friern Barnet	37	0	0
Christ Church, Wanstead	35	0	0
Chiswick Parish Church	35	0	0
St. Mary's (old church), Stoke Newington	35	0	0
St. Luke's, Hornsey	32	0	0
St. George's, Bloomsbury	31	0	0
C. W. Drabble	30	0	0
Chislehurst Wesleyan Church	29	0	0
St. Anne's, Highgate-rise	29	0	0
Baptist Church, Bloomsbury	29	0	0
Carmelite Church, Kensington	27	0	0
Effra-road Unitarian Church, Brixton	26	0	0
H. Dent Brocklehurst, Esq.	25	0	0
Miss de Wend	25	0	0
Duke of York's School	25	0	0
St. James's, Knatchbull-road	24	0	0
Upper Holloway Baptist Church	24	0	0
Finsbury Park Congregational Church	24	0	0
Magdalen Hospital Chapel, Streatham	23	0	0
St. Giles's, Camberwell	21	0	0
Epsom Parish Church	21	0	0
Holy Trinity, Dartford	20	0	0
Northaw Parish Church	17	0	0
Baptist Chapel, Woodberry Down	16	0	0
St. Jude's, East Brixton	16	0	0
St. Stephen's, Hounslow	16	0	0
Holy Trinity, Lamorbey	15	0	0
Wesleyan Church, High-street, Clapham	15	0	0
Wesleyan Chapel, City-road	15	0	0
Trinity College Mission, Camberwell	14	0	0
St. Giles's, Farnborough	14	0	0
St. Saviour's, Walthamstow	13	0	0
All Saints', Sydenham	12	0	0
West Molesey Parish Church	12	0	0
St. Thomas's, Camden Town	11	0	0
St. Lawrence's, Whitchurch	11	0	0
Congregational Church, Lavender-hill	11	0	0
St. Martin's, Ruislip	11	0	0
St. Dominic's Priory, Haverstock-hill	11	0	0
Theydon Bois Church, Essex	10	0	0

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The Council of the Royal College of Surgeons of England on June 14th conferred the diploma of Fellow on 16 candidates who had successfully passed the final examination held on May 18th, 21st, 22nd, 23rd, 24th, and 25th, for which 49 candidates presented themselves. The following are the names of the gentlemen on whom the Fellowship was conferred:—

Edward Victor Hugo, Major I.M.S., M.D., B.S. Lond., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; William Graddon Mortimer, M.B., B.S. Lond., M.R.C.S., L.R.C.P., London Hospital; William Paynter Noall, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Manchester University and London Hospital; George Irvine Thompson Stewart, M.B., C.M. Aberd., M.R.C.S., L.R.C.P., Aberdeen University and St. Thomas's Hospital; Arthur Falconer Hayden, Lieutenant I.M.S., M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Mary's Hospital; Harold Edward Ridewood, M.D. Lond., M.R.C.S., L.R.C.P., London Hospital; Ernest Ward, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and London Hospital; Alexander Moxon Webber, M.B., M.S. Lond., M.R.C.S., L.R.C.P., Guy's Hospital; Percival Pasley Cole, M.R.C.S., L.R.C.P., L.D.S. Eng., Guy's Hospital; George Rammell Footner, M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. Thomas's Hospital; William Mayhew Mollison, M.A., M.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and Guy's Hospital; William John Ogilvie Malloch, B.A., M.B. Toronto, M.R.C.S., L.R.C.P., Toronto University and London Hospital; James Alane Coupland, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Leeds University; Vivian Boase Bennett, Capt. I.M.S., M.B., B.S. Lond., Liverpool University, St. Thomas's, and St. Bartholomew's Hospitals; George Greig Farquhar, M.B., Ch.B. Aberd., Aberdeen University and London Hospital; and Duncan Campbell Lloyd Fitzwilliams, M.D., Ch.B., F.R.C.S. Edin., Edinburgh University and London Hospital.

The following gentlemen having successfully passed the examinations for the Licence in Dental Surgery and having complied with the by-laws, the Licence has been conferred upon them by the Council of the College:—

Oswald Harry Anderson, Liverpool University; James Essington Oswald Brawn, Guy's Hospital; Charles Sydney Brown, Birmingham University; Hugh Gordon Clark, Guy's Hospital; Horace George Codner, Charing Cross and Royal Dental Hospital; George William Collinson, Manchester University; Wilfrid James Parsons Dicks, Guy's Hospital; Sidney Gilbert Elliott, Guy's Hospital; Walter Elwood, Guy's Hospital; Roland Pitt Fenn, Guy's Hospital; William Edward Freeman, Guy's Hospital; Cecil Charles Freer, Guy's Hospital; Joseph Cecil Francis John Gillett, M.P.S., Guy's Hospital; Joseph Cecil Harris, Birmingham University; Oliver William Heald, Manchester University; John William Hindle, Manchester University; Frank Maurice Holborn, Guy's Hospital; William John Jones, University College, Bristol; Charles George Gordon Lewis, Guy's Hospital; Hugh Widenham Mace, Liverpool University; Horace Edmund Marsh, Guy's Hospital; Joseph Wesley Meadows, D.D.S Pennsylvania, Guy's Hospital; George Kelsey Breward Neal, Charing Cross and Royal Dental Hospitals; William Charles Palk, Middlesex and National Dental Hospitals; John Hodson Parsonage, Manchester University; Edward Spencer Pierrepont, Guy's Hospital; Arthur Thomas Pitts, Middlesex and Royal Dental Hospitals; Horatio Leonard Power, Guy's Hospital; William Henry Plowman, Guy's Hospital; Walter Rose, Middlesex and National Dental Hospitals; Harold Simms, M.B., Ch.B. Vict., Guy's Hospital and Manchester University; Frederick Smith, Sheffield, Charing Cross, and Royal Dental Hospitals; Albert Spray, Charing Cross and Royal Dental Hospitals; Greenwood Stansfield, Liverpool University; Thomas Cowley Stephen, Manchester University; Cyprian Herbert Taylor, Middlesex and National Dental Hospitals; and Ernest Wright, D.D.S. Pennsylvania.

UNIVERSITY OF CAMBRIDGE.—At a congregation on June 14th the following degrees were conferred:—

M.D.—H. T. Thompson, Christ's.
M.B.—W. P. Lowe, Caius; and J. W. E. Cole, Corpus.
M.B. and B.C.—M. Grundy, G. H. K. Macalister, and G. A. Tice-hurst, all of St. John's; and R. F. V. Hodge, Emanuel.
B.C.—J. McIntyre, King's; C. R. F. Hall, Trinity; H. C. Cameron, St. John's; G. H. Harper-Smith, Caius; and A. S. M. Palmer, Jesus.

UNIVERSITY OF BIRMINGHAM: FACULTY OF MEDICINE.—At the third examination for the degrees of M.B., Ch.B., held in June the following candidates were successful in the subjects indicated:—

Part I. (Pathology and Bacteriology).—J. Adams, Charlotte Bailey, *J. Dale, G. H. C. Mold, D. P. Smith, and E. V. Whitby.
Part II. (Materia Medica and Practical Pharmacy).—Class I.: J. Adams, *J. Dale, H. A. Evans, and E. V. Whitby. Class II.: Charlotte Bailey.

* Recommended for the Queen's Scholarship of ten guineas awarded to the candidate taking the highest place at the examination.

In the final examination for the degree of B.D.S. (Department of Dentistry) the following candidate was successful:—

Class I.—William Bowater.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. R. Henneberg, *privat-docent* of Psychiatry, has been granted the title of Professor, and Dr. Seiffer, Senior Medical Officer of the Clinic for Mental Diseases, has been appointed Professor.—*Buenos Ayres:* Dr. Pascual Palma has been appointed Professor of Surgery.—*Cologne (Academy of Practical Medicine):* Dr. Heinrich Füth of Leipsic has been appointed to the chair of Midwifery.—*Naples:* Dr. Rummo of Palermo has been appointed Professor of Clinical Medicine, Dr. Emilio Cioffi has been recognised as *privat-docent* of Internal Pathology, Dr. Onofrio Fragnito as *privat-docent* of Neurology and Psychiatry, Dr. Francesco Leuzzi as *privat-docent* of Anatomy, and Dr. Santi Rindone as *privat-docent* of Surgery.—*Padua:* Dr. Vitale Tedeschi has been appointed Extraordinary Professor of Pediatry.—*Philadelphia (Jefferson College):* Dr. George McClellan has been appointed Professor of Anatomy.—*Prague (German University):* Dr. Franz Erben has been recognised as *privat-docent* of Medicine and Dr. Wilhelm Wleihowski as *privat-docent* of Pharmacology.—*Rome:* Dr. Agostino Pasini has been recognised as *privat-docent* of Dermatology and Dr. Giuseppe Quattrocicocchi as *privat-docent* of External Pathology.—*Rostock:* Dr. O. Büttner, *privat-docent* of Midwifery and Gynæcology, has been granted the title of Professor, and Dr. J. Meinerts has been recognised as *privat-docent* of Internal Medicine.—*Strasburg:* Dr. Ernst Friedmann has been recognised as *privat-docent* of Physiological Chemistry, and Dr. Karl Spiro, *privat-docent* of Physiological Chemistry, Dr. Edwin Faust, *privat-docent* of Pharmacology, Dr. Albrecht Bethe, *privat-docent* of Physiology, and Dr. Julius Klein, *privat-docent* of Gynæcology, have been granted the title of Professor.—*Vienna:* Dr. Karl Hochsinger has been recognised as *privat-docent* of Anatomy and Dr. Franz Hamburger as *privat-docent* of Children's Diseases.

THE BRITISH MEDICAL ASSOCIATION IN CANADA.—The local committee of the British Medical Association, which this year will hold its meeting at Toronto from August 21st to 25th, is making arrangements to enable European visitors to Canada to see the vast extent of the wheat-fields on the Pacific coast and the magnificent scenery and mining facilities in the Rockies. To prevent the obvious difficulties of carrying several hundred people by special train across the Dominion it has been decided to form groups of from 16 to 25 visitors who will be provided with special sleeping cars and to enable this to be done the local committee requests that the names of intending visitors may be sent to the honorary local secretaries, Medical Building, Toronto, at an early date. If possible the complete list of names of a group wishing to travel should be sent in at the same time. If groups of only 10 or 12 names are sent in the committee will endeavour to couple certain groups of the British, Canadian, and American visitors in the hope of increasing the mutual interest and enjoyment of the trip. The cost for the round trip from Toronto will be $67.75 (£13 11*s.*).

WE are informed by the Equipoise Couch Company that by command of the Queen an "Equipoise" couch has been sent to Buckingham Palace for Her Majesty's inspection.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Nurses' Registration Bill.

Mr. MUNRO FERGUSON has presented a Bill in the House of Commons to regulate the qualifications of trained nurses and to provide for their registration. The Bill is supported by Dr. MACNAMARA, Mr. ROSE, Sir JOHN KENNAWAY, Mr. A. W. BLACK, Mr. EVE, Mr. FELL, Mr. CROOKS, and Mr. MCKILLOP.

HOUSE OF LORDS.

MONDAY JUNE 18TH.

On the motion of Lord DENMAN it was agreed that the Select Committee appointed to consider the Juvenile Smoking Bill should be empowered to consider the question of juvenile smoking generally and its effect on the physical condition of children; and to report whether any, and, if so, what, alterations in the law are desirable or practicable with a view to stopping the sale of tobacco and cigarettes to children below a certain age.

HOUSE OF COMMONS.

THURSDAY, JUNE 14TH.

Control of Food Manufactories.

Mr. COOPER asked the President of the Local Government Board whether there was any Local Government Order, or regulation, or by-law, requiring the makers of sausages, brawn, potted meats and paste, meat pies, &c., or of similar articles of food, to register their premises with any public authority, or which limited the hours of their manufacture to the hours during which inspectors were by legal custom allowed to enter, viz., 6 A.M. to 9 P.M.—Mr. JOHN BURNS said: The answer is in the negative. The Local Government Board has no power to make any such requirement as that suggested.

Vaccination.

Mr. LUPTON asked the President of the Local Government Board whether he would request the various medical officers of health throughout the country to ascertain the vaccinal conditions of all small-pox patients, not merely by verbal inquiries or by examination for marks of vaccination but also by examination of the registers to ascertain whether the patient had been registered as vaccinated.—Mr. JOHN BURNS replied: Such an examination of the vaccination registers as that suggested would involve considerable trouble and some expense, and in a great many cases it would be impracticable. The majority of small-pox patients are adults whose vaccination, if any, took place at a remote and uncertain date and often in another and perhaps distant place, many of these patients being persons of vagrant habits. It forms no part of the duty of the medical officers of health to make the proposed examination and I did not feel that I could ask them to undertake it.

Mr. LUPTON also asked the President of the Local Government Board whether it was a practice in the small-pox hospitals of the Metropolitan Asylums Board and of authorities in charge of small-pox hospitals throughout the country and of medical officers of health, in reference to small-pox patients, to have the vaccination registers searched in order to ascertain authoritatively the vaccinal conditions of small-pox patients.—Mr. JOHN BURNS answered: No, Sir; I believe not.

Mr. LUPTON further asked the President of the Local Government Board whether it was the practice for all vaccinations at all ages, and revaccinations, to be registered in public registers, and, if not, whether he would direct that all revaccinations performed at the public expense shall be entered in a register, and also address a request to private practitioners to cause all cases of revaccination, which were not at the public expense, and of primary vaccination where not previously registered to be registered.—Mr. JOHN BURNS replied: Every public vaccinator is required to enter in his vaccinators' register all vaccinations and revaccinations performed by him at the public expense. It would be advantageous if private medical practitioners kept similar records but I have no authority to ask them to do so. Every medical man, however, whether a public vaccinator or not, is required by the Vaccination Acts to give a certificate of the vaccination of any child successfully vaccinated by him. The certificate has to be sent to the vaccination office for entry in the register kept by that officer.

Suggested State Medical Staff for Schools.

Mr. KEIR HARDIE asked the President of the Board of Education whether he contemplated the creation of a special State medical staff to supervise the efforts of local educational authorities for attending to the health and physical condition of the children educated in the public elementary schools.—Mr. BIRRELL replied: The Board of Education is only responsible in respect of England and Wales. It already possesses one medical inspector of schools and I am contemplating the appointment of a second. I do not think it would be wise for the Board to embark upon the establishment of a large staff of such officials, at all events until there has been time to see to what extent the development of local authorities' activities under Clause 35 (*b*) of the Education Bill renders such a course desirable.

[The subsection of Clause 35 referred to provides that the powers of a local education authority shall include "power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools."]

MONDAY, JUNE 18TH.

Infantile Mortality.

Mr. WEDGWOOD asked the Secretary of State for the Home Department whether in view of the National Conference on Infantile Mortality and the speech there delivered by the President of the Local Government Board, in which he attributed infantile mortality and other evils largely to the employment of married women three months before and six months after childbirth, he would consider the possibility of dealing at an early date with this subject.—Mr. GLADSTONE answered: The question is one attended by many difficulties both as regards the enforcement of, and the possible results of, such a prohibition as is suggested and I am not prepared to deal with it immediately. I am, however, fully aware of the great importance of the subject which has already been under consideration in connexion with the report of the Committee on Physical Deterioration and it will receive my attention in connexion with any amending factory legislation.

Mr. ALDEN asked the President of the Local Government Board whether he would call the attention of the boards of guardians, by circular or otherwise, to the rate of infantile mortality in many districts throughout the country and ask for their coöperation in reducing that mortality, especially by giving medical relief to infants whose parents were unable to provide it, without making such relief a debt.—Mr. JOHN BURNS answered: I have no reason to suppose that guardians are unwilling to afford medical relief for infants whose parents are unable to provide it, nor have I any evidence to show that where it is the practice to give medical relief on loan persons properly entitled to receive relief are thereby deterred from applying for it. It does not at present appear to me necessary to send a circular to all boards of guardians as suggested, but if my honourable friend is aware of any particular cases of failure to give relief to the infants of parents unable

to provide it and he will communicate the facts to me I will further consider the matter.

Proposed Inspection of Foreign Meat.

Mr. STARKEY asked the President of the Board of Trade whether having regard to the insanitary conditions under which American meat was prepared for the market and to the fact that several persons had recently died at Hull from eating Argentine meat, he would at once take steps to have each consignment of foreign meat, in tins or otherwise, inspected on arrival in this country; and whether he would also cause a certificate to be issued showing the date of such inspection.—Mr. JOHN BURNS said: My right honourable friend has asked me to reply to this question. I am not at present in a position to take the steps suggested by the honourable member but I am considering the question of obtaining further powers for dealing with food imported from abroad.

Irish Medical Officers and the Sanitary Condition of National Schools

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether any complaints had been received in regard to the manner in which officers of health in rural districts discharge their duties in connexion with sanitation of the out-offices attached to national schools and the premises generally.—Mr. BRYCE answered: The Local Government Board has not received any complaints that there has been failure of duty on the part of medical officers of health generally in regard to the sanitary arrangements of national schools. It is to be remembered that these buildings are periodically inspected by the inspectors of national schools whose reports are communicated to the managers of the schools.

Contagious Diseases in Irish National Schools.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland what means were at present in force to prevent children suffering from contagious diseases attending national schools in the ordinary way; whether any provision was made for the systematic medical inspection of pupils attending national schools in Ireland with respect to defective sight, hearing, or with regard to skin diseases; and, if not, whether he would direct the attention of the Commissioners to the matter.—Mr. BRYCE said: The Commissioners of National Education inform me that they direct the exhibition in every national school of a printed notice calling attention to the penalties for sending children to school who have been suffering from infectious disorders. The Commissioners have also recently sanctioned the exhibition in every national school of a poster calling attention to the dangers of consumption and the measures to be adopted to prevent the spread of the disease, and in a new edition of "Notes for Teachers" which the Commissioners are about to issue a special chapter is devoted to school hygiene and teachers are instructed as to the general signs of infectious diseases. The managers and teachers are empowered to exclude from national schools children suffering from infectious diseases. With regard to the last question, the answer is in the negative. The matter is already within the knowledge and consideration of the Commissioners.

Patients in Military Hospitals.

Mr. H. C. LEA asked the Secretary of State for War whether patients in military hospitals were required to do fatigue duties whether convalescent or not; and, if so, whether he would issue an Army Order to prevent the patients being ordered to do work of any kind, having in view the fact that all soldiers in military hospitals were placed under stoppages of pay to recompense the public for the loss of their services whilst under medical treatment, and that if he could not see his way to issue the order above referred to he would see to it that no man would have any deduction made from his pay on the day he had done any work whilst in an army hospital.—Mr. HALDANE replied: The King's Regulations empower officers in charge of hospitals to employ on light duties without extra pay patients whom they consider able to aid the hospital establishment. Patients are never employed on the ordinary heavy work incidental to hospital routine and not often on the lighter work authorised, which would be in the wards. The stoppages are intended to recompense the State for cost of maintenance and treatment.

Sickness in a Hull Workhouse.

Mr. KENNEDY asked the Secretary of State for the Home Department whether his attention had been called to the report of Dr. H. Robinson submitted to the Sculcoates (Hull) board of guardians on June 12th that there had been 35 cases of sickness with six deaths in the workhouse; what was the cause of death and what space of time did the medical officer's report cover.—Mr. JOHN BURNS replied: Perhaps I may be allowed to answer this question. I have seen a copy of Dr. Robinson's report dated the 5th inst. in which he stated that during the previous week there had occurred in the workhouse a serious outbreak of diarrhœa and sickness—in all about 35 cases, of which number six had died. He attributed these deaths to that cause. He considered that the outbreak was occasioned by the consumption of certain frozen meat. I understand that the matter has been inquired into by a special committee of guardians, which reports that it was not proved to its satisfaction that the frozen meat was the cause of the outbreak. It further reports that the meat was in a wholesome condition on delivery at the workhouse but that it had not been kept under proper conditions. The guardians have not yet had an opportunity of considering this report.

TUESDAY, JUNE 19TH.

Glasgow Post-office Medical Officer.

Mr. CLELAND and Mr. MITCHELL-THOMSON asked the Postmaster-General what steps he proposed to take to fill the vacancy for the office of post-office medical officer for Glasgow.—Mr. SYDNEY BUXTON answered: The district hitherto administered by the chief medical officer at Glasgow has been too large for administrative convenience and now that an opportunity for rearrangement has arisen it is proposed to divide the district into several separate sections. Until the scheme is decided upon I am unable to make an appointment.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARFORD, A. M., M.D., D.P.H., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to the Throat and Ear Department of the Portsmouth and South Hants Eye and Ear Infirmary.

BELL, R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Physician to the Out-patient Department at the British Lying-in Hospital.

BIRD, T. D., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of District B by the Thrapston Board of Guardians.

BROWNLEE, ALEX., F.R.C.S. Edin., has been appointed Honorary Anæsthetist to the Cardiff Infirmary.

GROSVENOR, R. L., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chelsea District of the County of London.

HEATH, A. DOUGLAS, M.D. Lond., M.R.C.P. Lond., has been appointed Dermatologist to the General Hospital, Birmingham.

LUCAS, GEOFFREY, B.A. Cantab., L.S.A., has been appointed Medical Officer of Health to the Ringwood Rural District Council.

PHILLIPS, HUBERT C., M.R.C.S. Eng., M. & L.S.A., has been appointed Medical Officer to the South District of Paddington.

PHILLIPS, JOHN, M.D. Cantab., F.R.C.P. Lond., has been appointed Consulting Physician to the British Lying-in Hospital.

PRATT, JOHN W., L.R.C.P. Edin., M.R.C.S., has been appointed Deputy Medical Officer for the Radstock District by the Clutton (Somerset) Board of Guardians.

SHAW, W. VERNON, M.B., B.S. Oxon., has been appointed Medical Officer to the Malton Workhouse, York.

SPENCE, A. B., M.B., B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kinghorn District of the county of Fife.

THOMPSON, R., M.D. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Surgeon to the Eye, Ear, and Throat Department of the Brisbane Hospital, Queensland, Australia.

TURNBULL, JANE H., M.D., B.S. Lond., has been appointed Senior Obstetric Assistant and Anæsthetist to the New Hospital for Women, London, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELFAST, PURDYSBURN FEVER HOSPITAL.—Resident Medical Officer. Salary £150. Also House Physician. Salary £125.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Assistant Physician.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board, washing, &c.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. Salary £100, with residence, board, and washing.

CARDIFF ASYLUM.—Medical Superintendent. Salary £600 a year, with unfurnished house, light, coal, vegetables, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board and lodgings.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician for six months. Honorarium of £25, with board, residence, and laundry.

EGYPTIAN GOVERNMENT, MINISTRY OF EDUCATION.—Professor of Midwifery and Gynæcology. Salary £400 a year. Also Medical Tutor and Registrar to Kasr-el-Ainy Hospital. Salary £400 a year.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Radiographer. Salary £50 per annum. Also Clinical Assistants.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

EXMINSTER, DEVON COUNTY ASYLUM.—Assistant Medical Officer. Salary £140, with board, lodging, washing, and attendance.

FULBOURN, NEAR CAMBRIDGE, LUNATIC ASYLUM.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance.

GLOUCESTER GENERAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeoncy for six months. Salary at rate of £30 per annum, with board, residence, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50 per annum, with board and lodging.

INDIAN MEDICAL SERVICE.—Examination for not less than Twenty Commissions.

ITALIAN HOSPITAL, Queen-square, London, W.C.—Honorary Ophthalmic Surgeon.

LEICESTER INFIRMARY.—Refraction Assistant to the Ophthalmic Department.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Senior House Surgeon for three months. Salary at rate of £40 per annum, with board, laundry, &c.

METROPOLITAN ASYLUMS BOARD FEVER AND SMALL-POX HOSPITALS.—Assistant Medical Officers. Salary £180 per annum, rising to £240, with board, lodging, attendance, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon for six months, renewable. Salary at rate of £50 per annum, with board, residence, and washing.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

RAMSGATE GENERAL HOSPITAL AND THE RAMSGATE AND ST. LAWRENCE DISPENSARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, and attendance.

ROYAL EAR HOSPITAL, Dean-street, Soho, London, W.—Clinical Assistants.

ROYAL VETERINARY COLLEGE, Camden Town.—Professor of Biology. Also Lecturer on Physics.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Honorary Ophthalmic Surgeon.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—Demonstrator of Chemistry. Also Demonstrator of Physics. Salary in each case £150 per annum.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square.—Honorary Surgeon.

SHEFFIELD ROYAL HOSPITAL.—Honorary Assistant Dental Surgeon.

SOUTH AFRICA, CAPE COPPER COMPANY, LIMITED.—Assistant Surgeon. Salary £250 for first year, with increase.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

WADSLEY, NEAR SHEFFIELD, WEST RIDING ASYLUM.—Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

WANDSWORTH UNION INFIRMARY, St. John's-hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

WOKINGHAM, BERKS, LONDON OPEN-AIR SANATORIUM, Pinewood.—Assistant Medical Officer. Salary £100 per annum and all found.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with rooms, board, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon under the Factory and Workshop Act at Ayton, in the county of Berwick, and at Hatherleigh, in the county of Devon.

Births, Marriages, and Deaths.

BIRTHS.

CARRELL.—On June 15th, at The Drive, Ilford, the wife of G. N. P. Carrell, L.R.C.P., M.R.C.S., of a son.

DOUGLAS.—On June 17th, at Wood-street, Walthamstow, the wife of Kenneth H. Douglas, M.R.C.S., L.R.C.P., of a son.

GASKELL.—On June 11th, at Briar's Hey, Stechford, Birmingham, the wife of Leonard S. Gaskell, M.B., B.C. Cantab., of a son.

SAW.—On June 15th, at 27, Junction-road, Southsea, the wife of Major F. A. Saw, R.A.M.C., of a daughter.

TURNER.—On the 17th inst., at The Chestnuts, Oundle, Northants, the wife of B. Roworth Turner, M.B., B.C. Cantab., of a son.

WETHERELL.—On June 17th, at the Old House, Ipswich, the wife of Frank Cordeux Wetherell, M.B. Lond., of a daughter.

WROUGHTON.—On June 18th, at Wetheral, near Carlisle, the wife of William Haultain Wroughton, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

MARRIAGES.

ADDINSELL—HOWELL.—On June 16th, at St. Mary's Church, Long Ditton, John Howard Addinsell, M.R.C.S. Eng., L.R.C.P. Lond., to Anna Marguerite (Peggy), eldest daughter of Bulmer Howell, of Cumbrae, Ditton Hill.

HUNT—DUTTON.—On June 20th, at Henfield parish church, by the Rev. H. W. Hunt, M.A., rector of Shermanbury and rural dean, father of the bridegroom, assisted by the Rev. L. Dutton, rector of Aspenden, Herts, uncle of the bride, Ernest Rivaz Hunt, M.A., M.D. Cantab., of 19, Dyke-road, Hove, Sussex, to Margery Mary, second daughter of the Rev. W. T. Dutton, vicar of Sidlesham, Sussex.

MILLAR—GRAHAM.—On June 16th, at Durban, South Africa, James Grant Millar, M.B., Ch.B., to Mary Lang, second daughter of the late Andrew Lang Graham and of Mrs. Graham.

DEATHS.

RINGER.—On June 12th, at Lansdown-terrace, Cheltenham, Deputy Surgeon-General Theobald Ringer, M.D., I.M.S., late 7th Bengal Cavalry.

TROTTER.—On June 14th, at 4, St. Peter's-terrace, York, Surgeon-Colonel J. W. Trotter, late Coldstream and Scots Guards, eldest son of the late J. Trotter, M.D., of Durham.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ARE DOCTORS GREEDY?

WE commented under this heading in our issue of June 2nd, p. 1579, upon a report in the *Sheffield Telegraph* of a vulgar speech made before the Sheffield United Friendly Societies Council by a Mr. J. E. Bradwell, who accused medical men of acting like highway robbers and of being "insolent, contemptuous, and negligent of their duties." It appears that the correspondence arising out of Mr. Bradwell's pretty wit has been running ever since in the *Sheffield Telegraph*, for on June 15th a correspondent, writing above the signature "Surgeon," asks Mr. Bradwell some pertinent questions and points out that persons of Mr. Bradwell's way of thinking agree with the principles of trade unionism as far as they personally are concerned but not as far as their medical man is concerned. It is waste of time putting questions to uneducated people whose attitude towards the medical profession is dictated by jealousy of our professional status, but "Surgeon's" letter had a very good result all the same. For the editor of the *Sheffield Telegraph* has been moved by it to write an extremely sensible leading article upon the many vexed questions which have been discussed under the general heading of contract medical practice. In doing so he bears generous testimony to the altruism of the medical profession and points out that medical aid associations which attempt to sweat their medical men must suffer in the end. It stands to reason, he says, that if the associations underpay their medical officer or treat him badly they will only get poor medical attendance and will deserve it. These are the lessons that it is particularly valuable for the public to learn from lay papers. In medical journals such obvious truths lose their point because the public are so ready to believe that only the professional side of the matter has been taken into account. The badly managed medical aid associations, those which attempt "to keep the doctor in his place," as Mr. Bradwell and his like would probably describe the process of sweating to which we allude, are constantly quarrelling with and changing their medical men, from which arises the fact that their members can never receive proper medical attention. To give sound medical advice the medical man requires knowledge of the antecedents of his patients, and a spirit of mutual respect for each other is no small factor in much medical treatment. The poor ought to combine to obtain medical relief; in no other way can they pay at all for it, and it is quite easy to form a combination which works well for them and well for the medical profession. The present situation, however, arises out of the fact that a number of persons who have no claim on medical charity are determined to obtain medical assistance at starvation rates. When their claim is resisted they cry out loudly that the medical man is greedy (consult Mr. Bradwell for epithets) and as a result of these tactics the whole medical profession is coming to look askance at all forms of contrac practice.

HOW TO BE HEALTHY.

Dr. A. C. Magian has issued through Messrs. Merrin and Hayward of Manchester a pamphlet of 32 pages at the modest price of 1d., his object being to interest the ordinary "business man and woman in the subject of outdoor exercise as a means of becoming not merely strong but strong and healthy." The advice given is for the most part sensible and practical and deals with such things as exercise in the open air, food, dress, stimulants, worries, and so on. Especially to be commended are the author's advocacy of walking and his remarks on the care of the feet, which should be treated "with as much consideration as you would your face and hands." With regard to the "disgusting fraud perpetrated every day upon the public" by quacks and the vendors of injurious patent medicines the author is rightly of opinion that these people ought certainly to be prevented by the police from practising upon unsuspecting persons who imagine them to possess special knowledge. The keynote of the whole pamphlet is, "When you are well do all that you can to keep yourself so; but when you are ill do not dilly-dally and put the matter off until, perhaps, it is too late for anyone to do you any good. Consult someone who is able to give you proper advice—and take it."

SEASIDE CAMPS FOR WORKING BOYS.

THE committee of the Seaside Camps for London Working Boys has issued an appeal to the charitable public through the press asking for a continuance of the support which has been accorded them for the past 17 years. The work that this committee carries out is most useful; it assists London working lads to obtain the holiday which they need to recruit their health and strength, and their life in camp forms a most useful moral training for those whose work or daily environment is not always of the best kind. Last year 2450 lads were received "at camp," 500 more than in 1904, and we understand that there is every indication of a yet larger number of applicants this summer. Contributions should be sent to the secretary, Mr. F. Abel Bloxham, 23, Northumberland-avenue, W.C., or they may be paid directly to the bankers, Messrs. Cocks, Biddulph, and Co., 43, Charing-cross, S.W.

A MEDICAL INSCRIPTION FROM ANCIENT EPHESUS.

ALTHOUGH medical science in Græco-Roman times was far behind modern knowledge, yet efforts were then made to propagate such discoveries as were from time to time achieved, and the means of making them known by conferences or congresses was apparently similar to those employed at the present day. This has recently been illustrated by means of some Greek inscriptions found upon stones, built into an ancient church at Ephesus, which have been published by Professor J. Keil in the Year-book of the Austrian Institute of Archæology. These texts record what may be termed victories in contests, or debates, between physicians, probably a description of public discussion such as took place over a "thesis" in the mediæval universities. It would appear, therefore, that the medical men of Ephesus, and probably of the province of which that famous city was the capital, had a society or association, connected with what in those days took the place of a modern hospital—namely, the town's temple of Asclepios. The contests enumerated at Ephesus in what remains of the medical inscriptions were in surgery, *χειρουργία*, inventions and the perfecting of surgical instruments; *σύνταγμα*, by which is possibly meant a medical essay or collection of essays; and, finally, *πρόβλημα*, which would be the statement and discussion, and, it is to be hoped, solution, of some medical problem specially proposed. There is a special title for some of the physicians enumerated in these inscriptions—that of *ἀρχιατρός*, which may mean medical men possessing public appointments as well as such as stood specially high in the profession. The date of these Ephesus texts is about 200 A.D.

THE GEORGE BROWN TESTIMONIAL FUND.

To the Editors of THE LANCET.

SIRS,—Will you kindly publish in THE LANCET the following list of subscriptions to the above fund? The fund is now closed.

I am, Sirs, yours faithfully,

June 14th, 1906. JNO. POLLOCK SIMPSON.

	£	s.	d.		£	s.	d.
Dr. Robert Crawford ...	0	10	6	Dr. E. B. Thomson	0	10	6
Mr. George Jackson ...	5	0	0	Mr. W. D. P. Swain ...	0	5	0
Mr. Edward Bartlett ...	0	10	0	Dr. S. Wilson	0	10	6
Mr. C. H. Miles	0	10	6	Mr. Charles A. Foyl ...	0	10	6
Mr. A. Cosgrave	0	10	6	Mr. Joseph B. Cook... ...	0	10	6
Dr. R. B. Marjoribanks ...	0	10	0	Mr. A. Rivers-Willson ...	1	1	0
Mr. A. J. Carter	0	10	0	Dr. J. Pollock Simpson ...	1	1	0

DISTRIBUTION OF LIEGE EXHIBITION AWARDS.

THE awards to the British section of the recent Liége Exhibition were distributed on June 13th. The proceedings took place at the Mansion House and the Lord Mayor, Alderman W. Vaughan Morgan, occupied the chair. Mr. Imre Kiralfy, the British Commissioner-General, read a report upon the exhibition and the meeting was subsequently addressed by the Belgian Minister, Count de Lalaing, Sir Albert Rollit, M. Edouard Seve, Sir William Holland, and the Lord Mayor. The diplomas were then presented by Count de Lalaing. Messrs. Burroughs, Wellcome, and Co. received five awards of grand prix, three diplomas of honour, three gold medals, and one silver medal.

THE A. E. JONES FUND.

To the Editors of THE LANCET.

SIRS,—In forwarding the final list of subscriptions to the above fund allow me to say that the committee beg to thank those gentlemen who have contributed so generously. A cheque for the total amount will be presented to Dr. Jones on July 2nd. Due notice will be given to all those who have subscribed should they wish to be present.

I am, Sirs, yours faithfully,

June 19th, 1906. C. W. WIRGMAN.

	£	s.	d.		£	s.	d.
Dr. G. B. Mower White ...	2	2	0	Anonymous...	1	1	0
Dr. W. Morriston Davies	1	1	0	K.	0	10	0
Dr. P. Maynard Heath ...	1	1	0	F. S.	0	10	6

COUNTRY IN TOWN EXHIBITION.

Her Majesty the Queen has given her patronage to the "Country in Town" Exhibition which will be opened by H.R.H. Princess Christian in the Whitechapel Art Gallery at 3.30 P.M. on July 5th. Plans for beautifying crowded areas in London will be on view and an endeavour will also be made to show how much of nature still remains in the metropolis or has been brought back to it by the preservation of open spaces and in other ways. Aquaria, vivaria, beehives, nesting-boxes, fern cases, and flower tables will be exhibited and the subject of nature study in urban schools will be made prominent in various ways. A series of afternoon and evening lectures is also being arranged dealing with many subjects cognate to the idea that underlies the exhibition, such as gardens, garden cities and suburbs, tree-planting in London, bee-keeping, and natural history generally. The exhibition will be open until July 19th and as admission will be free contributions are invited towards the necessary expenses. All communications should be made to the honorary secretary, Mr. Wilfred Mark Webb, at Toynbee Hall, Whitechapel, E.

A LETTER signed "Etiquette" bearing an address at which no medical man appears to live can receive a reply when we are informed of the author's name.

Mr. D. Kerr.—We do not understand our correspondent's physiology but we shall be happy to inspect a specimen of his invention.

L. H. would be glad to hear what is the usual custom as to fees for certifying the cause of death to insurance companies.

T. L. H. should consult his or her family medical attendant.

ERRATUM.—In a leading article last week on "The Treatment of Ringworm," page 1700, in the sixth line upwards from the end of the second paragraph, for the words "acetate of starch" read "acetate of amyl." The error is obviously one of translation in the original article.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (25th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M.: Council. 8 P.M.: The President: Valedictory Address. Report of the Delegates appointed to meet the Representatives of the "Union of Medical Societies" and a Resolution will be moved. Short Papers:—Mr. J. F. Colyer: On Some Odontomes in the Museum of the Society (illustrated with lantern slides).—Mr. F. L. Dodd: Some Notes on Oral Conditions in Relation to Tuberculosis.

TUESDAY (26th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Extra Meeting. Papers:—Dr. J. D. Malcolm: Appendicitis and Gangrene of the Appendix considered as Separate Diseases.—Dr. StClair Thomson: Submucous Excision of Deviations and Spurs of the Nasal Septum, with a Report of 30 Operations. (With epidiascope demonstration.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. M. H. MacLeod: Clinique. (Skin). 5.15 P.M.: Lecture:—Dr. L. Williams: High Arterial Tension and Some of its Consequences.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lecture:—Diseases of the Tonsils (with lantern slides).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair

Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Eden: Demonstration (Gynæcological). (Post-Graduate Course.)

TUESDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. L. Williams: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. J. Morrison: Gynæcological.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture: Diseases of the Tonsils (with lantern slides).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Ferrier: Jacksonian Epilepsy.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M.: Dr. C. E. Harris: The Manufacture and Sophistication of Potable Spirits. (Lecture III.)

WEDNESDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. H. L. Barnard: Clinique. (Surgical). 5.15 P.M.: Lecture:—Mr. A. W. M. Robson: The Surgical Treatment of Cancer of the Stomach.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Practical Medicine.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. F. Taylor: Medicine. 3.15 P.M.: Mr. M. Robson: Surgery. 4 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.).—3 P.M.: Clinical Lecture:—Sir Victor Horsley: The Surgery of the Nervous System.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Dr. D. Grant: Larynx.

THURSDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical). 5.15 P.M.: Lecture:—Dr. Langdon Brown: Purin Bodies and the Purinometer.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lecture:—Practical Surgery.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Fenton: Demonstration (Medical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Dr. Voelcker: Some Common Errors in the Diet and General Hygiene of Childhood.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M.: Special Lectures:—Dr. S. M. Copeman: Cancer Prevalence.

FRIDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. Horne. Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.15 P.M.: X Rays. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture:—Diseases of the Cornea.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Bulbar Paralysis.

SATURDAY (30th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.15 P.M.: X Rays. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 21st, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Thermo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 15	30·00	N.	0·02	94	59	50	50	52	Cloudy
,, 16	29·98	N.E.	0·01	108	66	49	50	52	Cloudy
,, 17	30·02	E.	0·10	113	68	52	53	57	Cloudy
,, 18	30·13	S.W.	...	114	72	55	56	61	Hazy
,, 19	30·25	W.	...	116	74	55	58	65	Fine
,, 20	30·36	S.W.	...	125	81	57	61	67	Fine
,, 21	30·33	W.	...	111	73	63	63	66	Overcast

During the week marked copies of the following newspapers have been received:—*Oldham Evening Chronicle, Herefordshire Mercury, Worcestershire Chronicle, Burnley Gazette, Yorkshire Herald, Yorkshire Post, Birmingham Post, Daily News, Edinburgh Evening News, Wolverhampton Midland Express, Wigan Observer, Westminster Gazette, Morning Advertiser, Newcastle Chronicle, Herts Mercury, Scientific American,* &c.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. R. J. Albery, Lond.; A. C. Pipe Co., New York; Messrs. Armour and Co., Lond.; Adderleys, Ltd., Longton; Dr. F. W. Alexander, Lond.

B.—Dr. F. A. Bainbridge, Lond.; Messrs. Burroughs Wellcome and Co., Lond.; Dr. J. Burnet, Edinburgh; Messrs. Blackwell, Hayes, and Co., Birmingham; Messrs. Battley and Watts, Lond.; Mr. A. O. Bisson, Lond.; Messrs. Boulton and Paul, Norwich; British Gynæcological Society, Lond., Assistant Editor of; Mr. Demetrius C. Boulger, Lond.; Dr. R. Baumstark, Homburg; Bolton Infirmary, Secretary of; Messrs. Brown and Pank, Lond.; Birmingham University, Faculty of Medicine, Dean of; Bradford Medico - Chirurgical Society, Secretary of; Mr. W. F. Brock, Swansea.

C.—Dr. C. W. Chapman, Lond.; Co-partnership Tenants' Housing Council, Lond., Hon. Secretary of; Cornwall County Council Sanitary Committee, Chairman of; Mr. Harry Clough, Harrogate; Mr. A. Claxton, Lond.; Messrs. E. W. Carling and Co., Lond.; Messrs. Candy and Co., Heathfield; Constant Reader; C. H. G.; Mr. J. H. Cooke, Winsford; Mr. F. W. Clarke, Chorlton-cum-Hardy; Dr. J. R. T. Conner, Lond.

D.—Messrs. T. Dixon and Sons, Lond.; District Surgical Officer, Godavery, India; Devon County Asylum, Exminster, Clerk to the; Denver Chemical Manufacturing Co., New York; Mr. Leonard S. Dudgeon, Lond.

E.—Epsom College, Secretary of; Messrs. Evans, Sons, Lescher, and Webb, Lond.; E. T.

F.—Major P. Fowler, R.A.M.C., Lond.

G.—Mr. A. R. Green, Ledbury; Mr. James S. Gibson, Lond.; Mr. S. H. Greene, Lond.; Messrs. J. Gibbs and Sons, Liverpool.

H.—Dr. R. Henderson Hunt, Lond.; Captain Houston, Lond.; H., Streatham; Hampstead, Lond.; Messrs. E. and H. Hora, Lond.; Messrs. Hatch, Mansfield and Co., Lond.; Mr. William C. Harvey, Glasgow; Dr. David Fraser Harris, St. Andrews.

I.—Incorporated Medical Practitioners' Association, Lond., General Secretary of; Dr. Edward Ibotson, Dover.

J.—Mr. W. W. Jones, Brighton.

K.—Mr. D. Kerr, Fallowfield; Dr. J. H. Keay, Perth; Messrs. R. A. Knight and Co., Lond.; Kensington, Medical Officer of Health of.

L.—Dr. David Lawson, Banchory-on-Dee; Local Government Board, Lond., Medical Officer of; Mr. O. Levy, Lond.; Mr. B. Leppington, Oxford.

M.—Mr. James MacMunn, Lond.; Messrs. J. Menzies and Co., Glasgow; Mr. R. de Méric, Lond.; Mr. M. Martindale, Lond.; Metropolitan Provident Medical Association, Lond., Secretary of; Maltine Manufacturing Co., Lond.; Mr. R. Mosse, Munich; Mr. J. J. Miller, Lond.; Dr. E. G. A. Morshead, Guildford; Mr. E. de Martini, Hove.

N.—Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.; Mr. Charles Noble, Lond.

O.—Messrs. Ornstien Bros., Lond.; Mr. Edmund Owen, Lond.; O'Gorman Agency, New York; Mr. R. A. O'Brien, Cairns, Australia.

P.—Mr. Y. J. Pentland, Edinburgh; Mr. W. B. Parsons, Lond.; Professor R. H. Parker, Liverpool; Mr. R. Pearson, Leighton Buzzard; Plumbers' Co., Lond.; Mr. H. S. Persse, Galway; Messrs. Peacock and Hadley, Lond.

Q.—Dr. R. Quarti, Bergamo, Italy.

R.—Dr. C. Rolleston, Chelmsford; Royal Albert Hospital, Devonport, Secretary of; Ramsgate Infirmary, Secretary of; Royal College of Surgeons in Ireland, Dublin, Registrar of; Royal College of Physicians, Lond., Clerk of; Royal College of Surgeons, Lond., Secretary of; Royal Devon and Exeter Hospital, Secretary of; Royal Ear Hospital, Lond., Secretary of; Dr. J. W. Rob, Weybridge; Royal Isle of Wight County Hospital, Ryde, Secretary of; Mr. W. C. Rivers, Llanbedr, Ruthin; Richmond, Surrey, Medical Officer of Health of; Referee; Royal Army Medical Corps (Volunteers), (London Companies); Royal Meteorological Society, Lond., Assistant Secretary of.

S.—Dr. G. H. Skinner, Stirling; Stockport Infirmary, Secretary of; Slo-com Pipe Co., Lond.; Dr. G. Arbour Stephens, Swansea; Mr. Claude St. Aubyn-Farrer, Lond.; Mr. F. W. Sears, Lond.; Mr. H. R. Stuart, Fleet; Société des Baux Minérales de Contrexéville, Director of; Messrs. S. Smith and Son, Lond.; St. Marylebone General Dispensary, Secretary of; Dr. F. Shuffebotham, Newcastle-under-Lyme; Dr. R. M. Smith, York; Major F. Saw, R.A.M.C., Southsea; Sheffield Royal Hospital, Secretary of; Dr. F. N. G. Starr, Toronto; Dr. R. V. Solly, Exeter; Scholastic, Clerical, &c., Association, Lond.

T.—Messrs. J. and J. Taunton, Birmingham; Dr. E. J. Toye, Bideford; T. L. H.

V.—Messrs. J. M. Verschure and Son, Lond.; Mr. C. Vernon, Lond.; Dr. Julian Vaughetti, Empoli, Florence; Victoria Hospital, Burnley, Secretary of.

W.—Mr. T. H. Wood, Lytham; Messrs. A. J. Wilson and Co., Lond.; Dr. A. Wales, Belfast; Dr. J. H. Walker, Lond.; Messrs. Angus Watson and Co., Newcastle-on-Tyne; Wolverhampton, Rye Infirmary, Secretary of; Dr. William Wright, Glasgow; Westminster, Medical Officer of Health of; West Sussex, Medical Officer of Health of; Dr. Charles J. Whalen, Chicago; Wand Manufacturing Co., Leicester; Messrs. Weston and Westall, Lond.; Dr. Robert Worthington, Southsea.

Y.—*Yorkshire Daily Post*, York, Publisher of.

Letters, each with enclosure, are also acknowledged from—

A.—A. M. W.; A. A.; A. S. M.; Aerators, Ltd., Lond.

B.—Miss A. Bandy, Dunstable; Bristol General Hospital, Secretary of; Messrs. Bains Bros. and Stevenson, Lond.; Mr. H. S. Bennett, Durban; Dr. L. Buss, Lond.; *Birmingham Daily Post*, Manager of; Berrow's Worcester Journal Co., Worcester; Messrs. Battle and Co., Paris.

C.—Mr. A. P. Coker, Gisborne, New Zealand; C. M.; Cleveland Asylum, Middlesbrough, Clerk to the; Cumberland and Westmorland Asylum, Carlisle, Clerk of; Central London Throat, &c., Hospital, Secretary of; Dr. C. Coles, Oxford; Mr. R. Chaffers, Grange-over-Sands.

D.—Messrs. G. L. Daube and Co., Berlin.

F.—Dr. W. B. O. Ferguson, Robin Hood's Bay; Messrs. R. D. and J. B. Fraser, Ipswich; F. H. L.; Dr. G. Fletcher, Lond.; Mr. S. Fisher, Lond.; Mr. W. Frost, Battle; Mr. F. T. Paggo, Llanfairfechan.

G.—Dr. R. Griffith, Netherton; Grimsby Hospital, Secretary of; Dr. G.; G. H. F.; Messrs. Gould and Portmans, Lond.

H.—Dr. J. T. Hughes, Altrincham; Hull Royal Infirmary, Secretary of; H. A. B.; H. P. P.; H. S.; H. G. N.; H., Streatham; Messrs. T. Holland and Son, Lond.; Mr. W. B. Harley, Hove; Mr. J. Heywood, Manchester; Dr. R. R. Hunt, Henfield.

J.—Mr. A. G. Jalland, Potton; Miss M. E. Jeremy, Weybridge; J. P. R.; J. S. H.

K.—Mr. R. C. B. Kerin, Lond.; Dr. A. C. King-Turner, Fairford; Messrs. C. Knight and Co., Lond.

L.—Dr. T. D. Luke, Edinburgh; Mr. H. K. Lewis, Lond.; Dr. R. A. Lambert, East Ilsley; Messrs. Lucas and Co., Lond.; Dr. A. W. Limont, Grampound Road; Leicester Infirmary, Secretary of; London Open-Air Sanatorium, Wokingham, Secretary of.

M.—Mr. B. J. Mayne, Carn Brea; Mr. W. Morgan, Wakefield; Messrs. Macmillan and Co., Lond.

N.—Mr. F. W. North, Grantham; N. G. H.

O.—Oldham Infirmary, Secretary of.

P.—Mr. H. C. Pauli, Middleham; Dr. A. K. Pal, Behala, India; P. A. C.; Mr. J. T. Park, Bolton; Plymouth Borough Asylum, Blackadon, Secretary of.

R.—Registered Nurses' Society, Lond., Secretary of; R. T. W.; R. O.; Miss Raby, Menheniot.

S.—Mr. J. Safar, Vienna; Sunderland Infirmary, Secretary of; Stirling District Asylum, Larbert, House Stewart of; Salford Corporation, Treasurer to the; South Devon and East Cornwall Hospital, Plymouth, Secretary of; Surgeon, Obellaston; Mr. P. Swanseger, Walrea, New Zealand; Dr. H. G. Stacey, Leeds; Seltzogene Patent Charges Co., St. Helens; Surgeon, Liverpool; Messrs. T. G. Scott and Sons, Lond.; Dr. R. I. Spriggs, Lond.; S. E.; Major F. Smith, R.A.M.C., Southsea.

T.—Mr. J. Thin, Edinburgh; Tottenham Hospital, Director of; T. H. W.

V.—Messrs. Van Houten and Son, Lond.; Dr. R. M. Van Buskirk, Fort Wayne.

W.—Mr. J. A. Wood, Kinnersley; Dr. J. Wayte, Croydon; Dr. J. R. Williamson, Bhandara, India; Mr. R. T. Williams, Cwmavon; W. T. H.; W. W. G.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d. Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapts, Asnieres, Paris